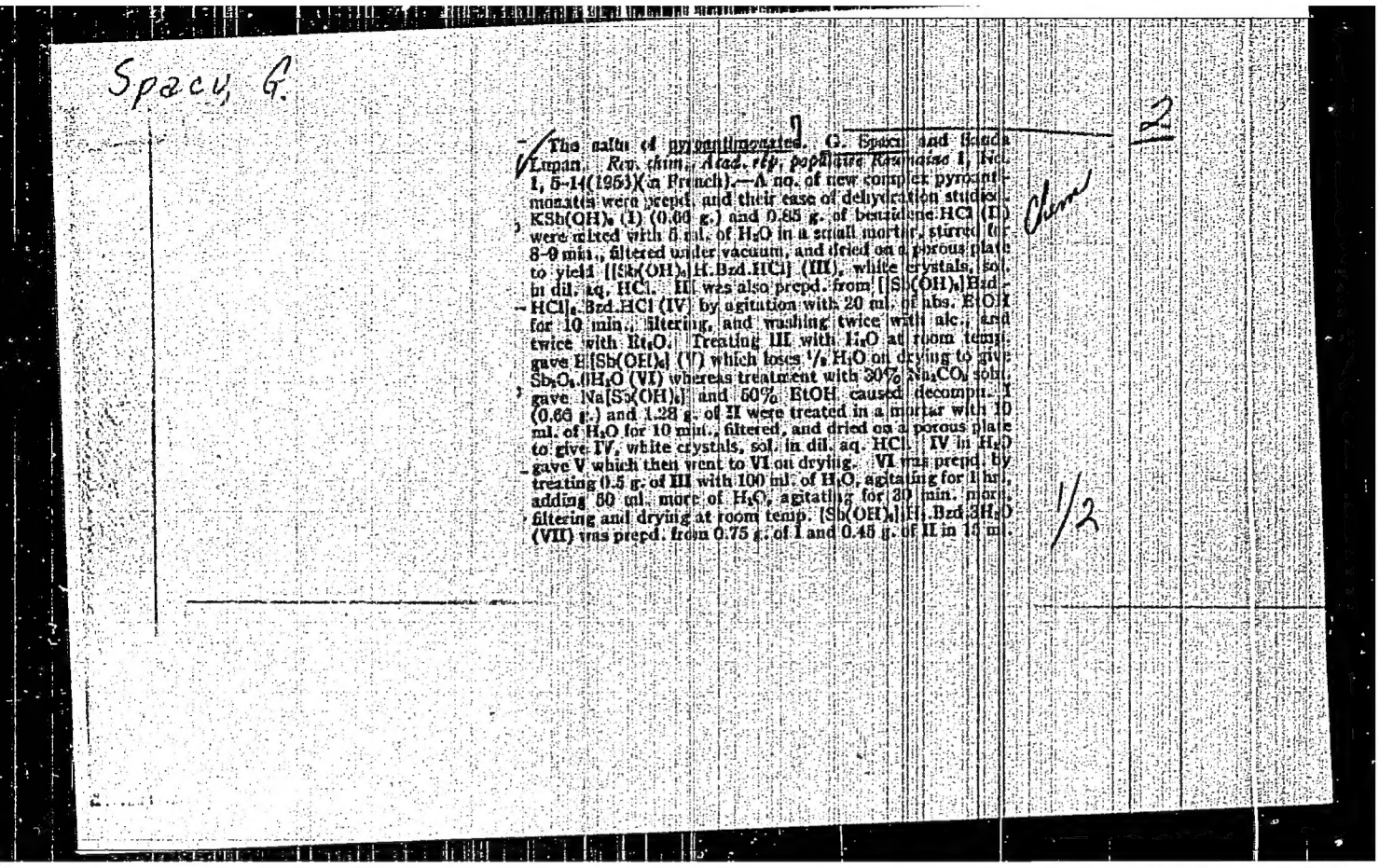
$PbCl_6$ 6

chem.

Hexachloroplumbates, a new class of complex compounds. G. Spacu and M. Radulescu-Brezeanu. Acad. rep. populare Romîne, Bul. ştiinţ., Sec. ştiinţe teh. si chim. 4, 111-9 (French summary).—One g. of trans-$[Cl_2Co\ en_2]Cl$ in 20 ml. of freshly prepd. Cl water and 0.65 g. of finely powd. $(NH_4)_2PbCl_6$, gave on filtration and drying cis-$(en_2Co\ en_2)Pb\ Cl_6.0.5H_2O$, green crystals. Similarly prepd. were the trans-analog (no H_2O of crystn.), cherry-red crystals; $(Cl_2CoPy_4)_2PbCl_6$, green; $[Co(NH_3)_6]PbCl_6]_2O$, black needles (via a yellow intermediate, probably $[Co(NH_3)_3]Cl]PbCl_6$; $[Co(NH_3)_6]NO_3$-$PbCl_6.3H_2O$ yellow, over P_2O_5 forms the anhyd. compd.; and $[Co\ en_3]Cl]PbCl_6.H_2O$, yellow crystals. All these compds. were prepd. under a Cl atm. in freshly prepd. Cl water; they are stable in air, but decomp. in acids and H_2O to give PbO_2. The results are presented as evidence that the double salts reported in the literature ought to be formulated as complex compds. contg. $PbCl_6^{--}$, and this ion remains unchanged in reactions of M_2PbCl_6 with metalammines.

Gary Gerard

(clipped abstract)



Spacu, G.

2

The salts of pyroantimonates. G. Spacu and Ecaterina Lupan. *Rev. chim., Acad. rep. popular Romîne* 1, No. 1, 5-14(1956)(in French).—A no. of new complex pyroantimonates were prepd. and their ease of dehydration studied. $KSb(OH)_6$ (I) (0.66 g.) and 0.85 g. of benzidine.HCl (II) were mixed with 5 ml. of H_2O in a small mortar, stirred for 8-9 min., filtered under vacuum, and dried on a porous plate to yield $[Sb_2(OH)_6H.Bzd.HCl]$ (III), white crystals, sol. in dil. aq. HCl. III was also prepd. from $[Sb(OH)_6Bzd.HCl]_2.Bzd.HCl$ (IV) by agitation with 20 ml. of abs. EtOH for 10 min., filtering, and washing twice with alc., and twice with Et_2O. Treating III with H_2O at room temp. gave $H[Sb(OH)_6]$ (V) which loses $\frac{1}{2}$ H_2O on drying to give $Sb_2O_5.0H_2O$ (VI) whereas treatment with 30% Na_2CO_3 soln. gave $Na[Sb(OH)_6]$ and 60% EtOH caused decompn. I (0.66 g.) and 1.28 g. of II were treated in a mortar with 10 ml. of H_2O for 10 min., filtered, and dried on a porous plate to give IV, white crystals, sol. in dil. aq. HCl. IV in H_2O gave V which then went to VI on drying. VI was prepd. by treating 0.5 g. of III with 100 ml. of H_2O, agitating for 1 hr., adding 80 ml. more of H_2O, agitating for 30 min. more, filtering and drying at room temp. $[Sb(OH)_6]H_2.Bzd.3H_2O$ (VII) was prepd. from 0.75 g. of I and 0.45 g. of II in 15 ml.

Chem

1/2

Spacu, G. and Lupan, Sanda

of H_2O, filtering and drying to give white crystals that form slightly yellow crystals in concd. HCl. On drying the soln. became yellow and the substance blackish but on boiling the soln. became violet without complete dissolving of the crystal. This was accomplished by boiling with concd. HCl and tartaric acid. Treatment of I with toluidine HCl led to $[Sb(OH)_6]H$. Told. HCl and similarly $[Sb(OH)_6]_2H_2$ Told. was prepd. These have properties similar to the benzidene compds. When 1 g. of I in 25 ml. of H_2O was cooled and treated with 0.4 g. of $[Cr(NH_3)_6]Cl_3$ (VIII) in 10 ml. of H_2O and stirred, a yellow ppt. of $[Cr(NH_3)_6][Sb(OH)_6]_3.3H_2O$ (IX) was formed which was washed with a soln. contg. 0.5 g. of VIII in 100 ml. of H_2O and dried on porous plate. IX is sol. in dil. aq. HCl. Similarly $[Co(NH_3)_6]_2[Sb(OH)_6]_2(SO_4)(OH)$.2.5 H_2O was prepd. by treating 0.8 g. of $[Co(NH_3)_6]_2(SO_4)_3.H_2SO_4$ in 20 ml. of H_2O with 0.5 g. $Ba(OH)_2$ to form $[Co(NH_3)_6](SO_4)(OH)$ which is added to 0.3 g. of I; light orange crystals, sol. in dil. acids. The corresponding Cr salt was prepd. similarly to give $[Cr(NH_3)_6]_2[Sb(OH)_6]_2(SO_4)(OH)2.5H_2O$, pale yellow crystals, sol. in dil. HCl.

A. Leffler

2/2

SPACU, G.

Determination of copper in the presence of molybdenum. G. Spacu and Constanta Gheorghiu (Univ. "C.I. Parhon," Bucharest). *Rev. chim. Acad. rdp. populaire Roumaine* 1, 15-20(1956)(in French); cf. *C.A.* 49, 8033*c*.—CuSCN is pptd. at 60° from acid soln. with NH_4SCN. Cu is detd. from the wt. of CuSCN after it has been washed and dried *in vacuo*. After the SCN^- ions have been removed by oxidation with HNO_3, the Mo^{++} is reduced to Mo^{+++} with electrolytic Cd and added to a soln. of ferric ions. The resulting Fe^{++} is titrated with $KMnO_4$; 1 ml. 0.1 *N* $KMnO_4$ = 3.2 mg. Mo. In a 2nd method Cu is sepd. as $Cupy_2(SCN)_2$. Pyridine is added to a tartaric acid soln. of Cu and Mo until the soln. is blue. NH_4SCN then added ppts. $Cupy_2(SCN)_2$. Cu is calcd. from the wt. of the ppt. after it has been dried *in vacuo*. The filtrate is concd., oxidized with HNO_3, and the Mo is pptd. with 30% hydroxyquinoline dissolved in 4 *N* HOAc. Wt. of Mo is detd. from the wt. of ppt. after it has been dried at 130°. In 3 hrs. 30-50 mg. of Mo can be detd. to ±0.3 mg. and 25 g. Cu can be detd. to ±0.6 g. Mary L. McFadden

SPACU, 6.

New gravimetric methods for the determination of thorium, aluminum, beryllium, and zinc and their separation from certain elements. G. Spacu and Th. J. Dicu (Univ. "C. I. Parhon," Bucharest). *Rev. chim., Acad. rep. populaire Roumaine* 1, No. 2, 5-25(1956)(in French).—In a modification of a method with mercaptobenzothiazole (I) for the detn. of Cu, Cd, Pb, Tl, Bi, and Au (*C.A.* 29, 7213[9]; 30, 2878[6]), a procedure is described by which Th, Al, Zn, and Be are estd. gravimetrically by means of the Na salt (II) of I. *Th.* To 5–20 ml. of a $Th(NO_3)_4$ soln. contg. 0.01–0.1 g. Th, add 2–10 ml. of a 10% aq. soln. of II with agitation. The pptd. I-Th (III), white crystals, is filtered, washed with 50–100 ml. of a soln. contg. 0.1–0.15 g. of II and distd. H_2O, and dried at 110–20°. The factor is 0.2576. III can be calcined to ThO_2 at 1100°. *Al.* It is detd. by a similar method as a salt of I (factor 0.051307), or by the calcination of the latter to Al_2O_3. In the presence of Mg, Al is pptd. 1st. with II, and after the pptn. of I with 10–15% HCl, Mg is detd. in the filtrate with an a^c. soln. of 8-quinolinol (IV) (Berg, *C.A.* 21, 2850). *Be.* A neutral or weakly acidic Be salt soln. (5–50 ml.) contg. 0.003–0.05 g. Be is pptd. with 1–15 ml. of the soln. of II. The resulting I-$BeOH \cdot {}^1/_2H_2O$ is washed with warm 3% NH_4NO_3 soln. contg. II, dried over P_2O_5, and calcined to the oxide. SO_4^{--}, NO_3^-, halogen$^-$, OAc^-, Na^+, K^+, NH_4^+ do not interfere with this detn. The sepn. of Be from Mg is carried out similarly to the estn. of Al and Mg. *Be in the presence of Al.* Al is pptd. with IV (Kolthoff and Sandell, *C.A.* 22, 3112), and Be from the filtrate with II at 60°. The Be-I is estd. as oxide. *Zn.* The Zn salt soln. (5–50 ml.) (pH 5–6), contg. 1–2 g. NaCl is pptd. with a 10% soln. of II (factor 0.1644). In the presence of Al and Fe, 1–2 g. of tartaric acid is added and Zn pptd. as Zn-I and calcined to ZnO. *Zr.* It is pptd. at pH 2.9 and estd. as ZrO_2. Kaufler

Distr: 4E3d

SPACU, G.

1 21

Colorimetric determination of copper. G. Spacu and D. Scherzer (C. I. Parhon Univ., Bucharest). Acad. rep. populare Romine, Studii cercetări chim. 4, 219-25(1951).— Cu can be detd. colorimetrically as $[Cupy_2(OCN)_2]$ (I) in a $CHCl_3$ soln., in amts. of 0.3-3 mg. The influence of the reagents, pH, temp., time, and foreign ions upon the extinction was studied. Extinction varies linearly if a large excess of reagents is used to ppt. I in H_2O and if the extn. with $CHCl_3$ is performed at pH 8 and 20°. From 0.3 to 3 mg. of Cu can be detd. In the presence of 2 mg. of Mn; the presence of 2 mg. of Zn decreases the determinable amt. to 0.3-2 mg., 1 mg. Ag to 0.3-1.5, and 1 mg. of Hg to 0.3-1 mg. Cu.

Werner Jacobson

5

SPACU, G. ; ANTONESCU, E.

A new gravimetric method for the determination of silver. p. 105.
(ANALELE. SERIA STIINTELOR NATURII. Rumania. Vol. 5, no. 11, 1956)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

SPACU, G. ; IANCU, C.

A new volumetric method for the determination of lead. p. 109.
(ANALELE. SERIA STIINTELOR NATURII. Rumania. Vol. 5, no. 11, 1956)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

SPACE G.

RUMANIA/Analysis of Inorganic Substances G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19549

Author : G. Spacu, Th. Pirtea
Inst : C. J. Parhon University.
Title : New Method of Quantitative Determination of Mercury in the Presence of Iron and Aluminum.

Orig Pub: An. Univ. "C. J. Parhon". Ser. stiint. natur., 1956, No 10, 35 - 38.

Abstract: Hg^{2+} ions are precipitated as $(HgPy_2)(Cr_2O_7)$ after Fe^{3+} and Al^{3+} have been combined in sulfosalicylate complexes. Fe and Al are determined in the filtrate, using a known method.

Card 1/1 - 29 -

SPACE G.

RUMANIA/Analysis of Inorganic Substances G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19595

Author : Gh. Spacu, Constanta Gheorghiu
Inst : C. J. Parhon University
Title : New Method of Separating Cobalt from Tungsten

Orig Pub: An. Univ. "C. J. Parhon". Ser. Stiint. Natur., 1956, No 10, 51 - 53.

Abstract: Co is precipitated as $[CoPy_4(SCN)_2]$ from a tartrate containing solution; W is precipitated from the filtrate with cinchonine. The error is some tenths of a milligram. The determination duration is 30 min.

Card 1/1 - 71 -

SPAC 6

Volumetric method for the separation and the indirect determination of nickel in presence of aluminum. Spacu and Claudia Vasilescu (Univ. Bucharest, Romania). *Analele univ., C. I. Parhon Bucuresti, Ser. stiint. nat.* 1956, No. 10, 55–9.—Al is maintained in soln. as a stable sol. complex by the addn. of Na sulfosalicylate and the Ni is titrated indirectly according to the method of Spacu and Ripan (*C.A.* 17, 3848). When the Al is in soln. as a complex, Ni is pptd. with pyridine and a known vol. of a standard soln. of NH_4SCN. The ppt. is filtered out and the excess NH_4SCN is titrated with $AgNO_3$ with diphenylcarbazone as an indicator. For this titration the soln. has to be neutral, so the excess pyridine is neutralized with dil. HNO_3 with α-dinitrophenol as an indicator. A. Berlin

Volumetric method for the separation and the indirect determination of cobalt in presence of aluminum. G. Spacu and Claudia Vasilescu (Univ. Bucharest, Romania). *Analele univ., C. I. Parhon Bucureşti, Ser. ştiinţ. nat.*, 1956, No. 10, 61–4.—Al is maintained in soln. as a stable sol. complex by the addn. of Na sulfosalicylate and Co is titrated indirectly according to the method of G. Spacu and M. Kuras (*Bul. soc. ştiinţe Cluj* 7, 377–3(1934)). When the Al is in soln. as a complex, Co is pptd. with pyridine and a known vol. of a standard soln. of NH_4SCN. The ppt. is filtered out and the excess NH_4SCN is titrated with $AgNO_3$ with diphenylcarbazone as an indicator. For this titration the soln. has to be neutral, so the excess pyridine is neutralized with dil. $AgNO_3$ with dinitrophenol as an indicator.

A. Berlin

Distr: 4E4j

SPACU, E.

RUMANIA/Analysis of Inorganic Substances G-2

Abs.Jour: Ref Zhur Khimiya No 6 1957, 19525

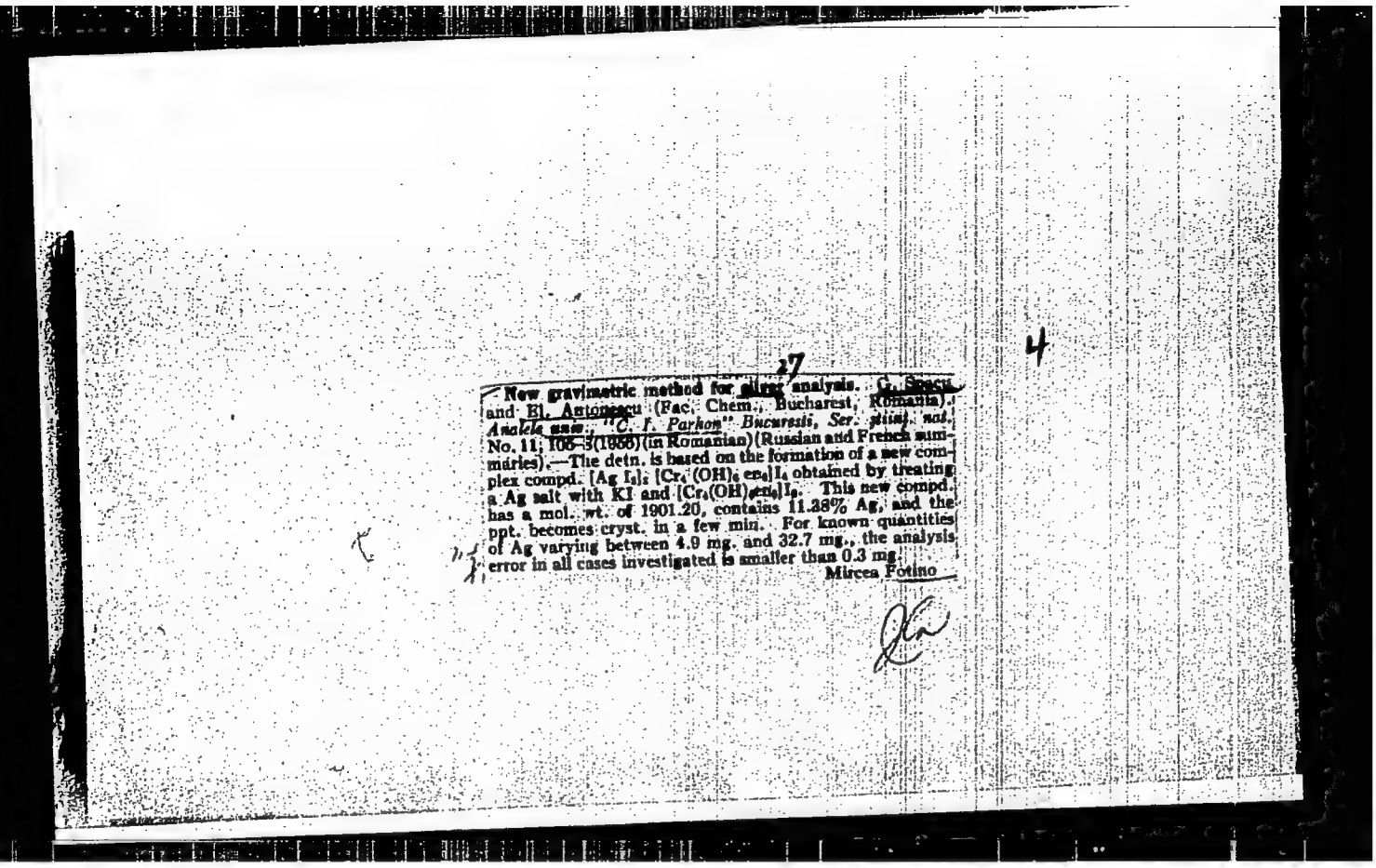
Author : G. Spacu, Cornelia Iancu
Inst : C. J. Parhon University
Title : Separation and Volumetric Determination of Copper in the Presence of Iron and Aluminum

Orig Pub: An. Univ. "C. J. Parhon". Ser. stiint. natur., 1956, No. 10, 3 - 37.

Abstract: Cu is precipitated as /CuFe(SCN)5 7 retaining Fe^{3+} in solution by adding NaF and retaining Al in solution by sulfosalicylic acid.

V. Sazanova

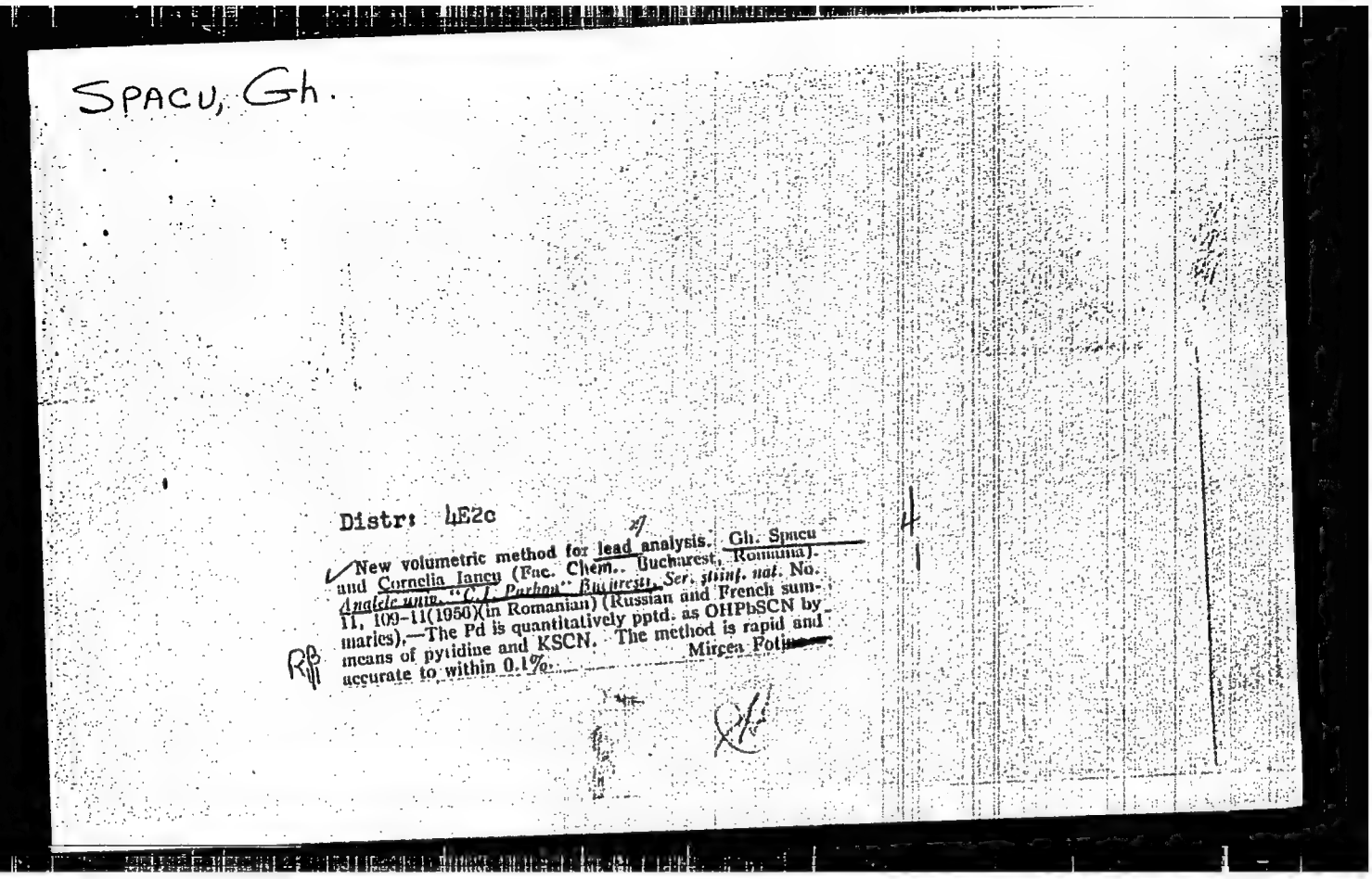
Card 1/1 - 10 -



27

New gravimetric method for silver analysis. G. Spacu and El. Antonescu (Fac. Chem., Bucharest, Romania). *Analele stiint. Univ. "C. I. Parhon" Bucuresti, Ser. stiint. nat.* No. 11, 105–3(1958)(in Romanian)(Russian and French summaries).—The detn. is based on the formation of a new complex compd. $[Ag\ I_3][Cr_4(OH)_6en_6]I_4$ obtained by treating a Ag salt with KI and $[Cr_4(OH)_6en_6]I_6$. This new compd. has a mol. wt. of 1901.20, contains 11.38% Ag, and the ppt. becomes cryst. in a few min. For known quantities of Ag varying between 4.9 mg. and 32.7 mg., the analysis error in all cases investigated is smaller than 0.3 mg.

Mircea Potino



SPACU, Gh.

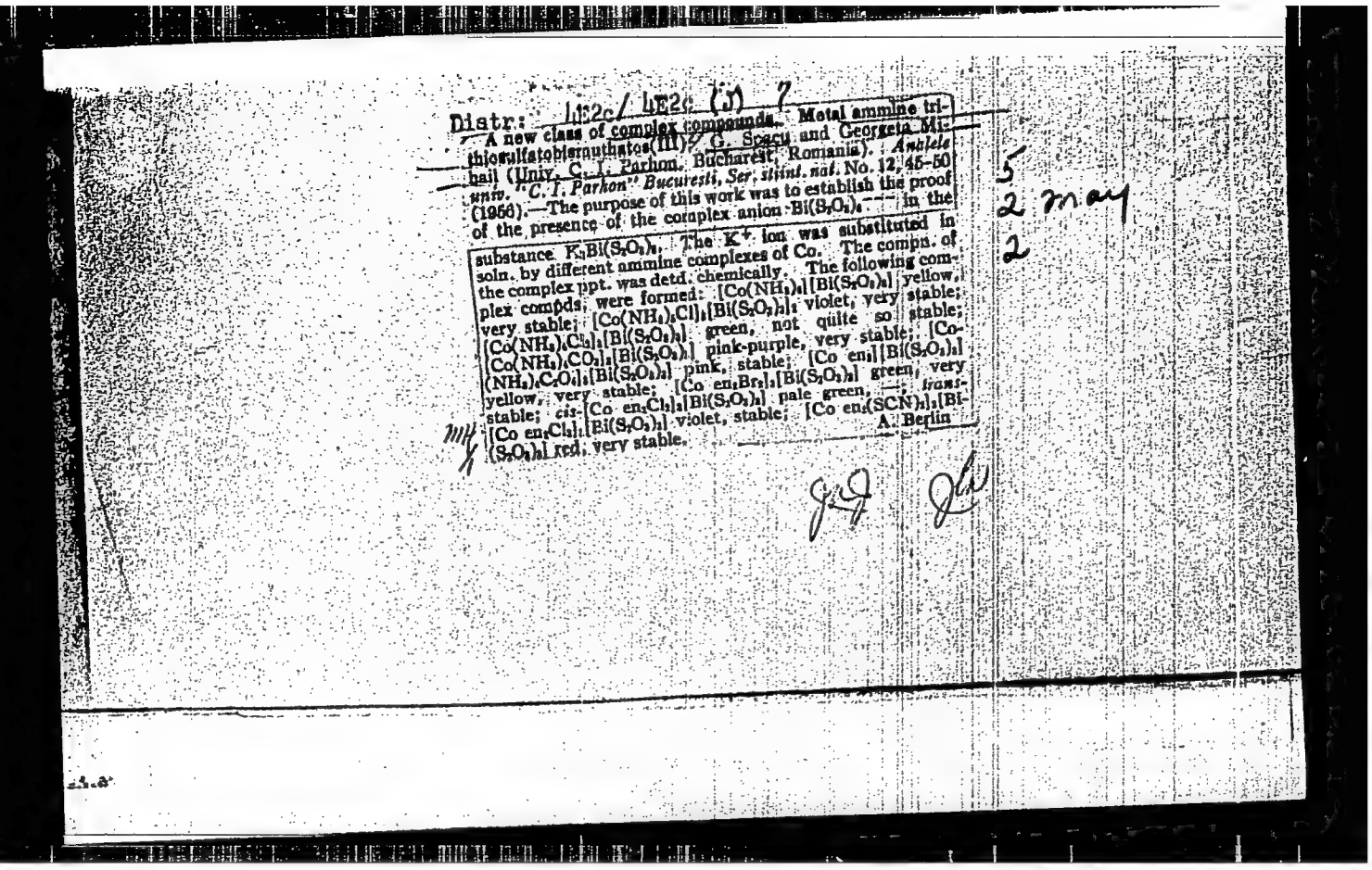
Distr: 4E2c

New volumetric method for lead analysis. Gh. Spacu and Cornelia Iancu (Fac. Chem., Bucharest, Romania). *Analele univ. "C. I. Parhon" Bucuresti, Ser. stiinf. nat.* No. 11, 109–11(1950)(in Romanian) (Russian and French summaries).—The Pd is quantitatively pptd. as $OHPbSCN$ by means of pyridine and KSCN. The method is rapid and accurate to within 0.1%. Mircea Foti

Distr: 4E2c

27

Gravimetric method for copper analysis. P. Spacu and El. Antonescu (Fac. Chem., Bucharest, Romania). *Analele univ., "C. I. Parhon" Bucuresti, Ser. stiinț. nat.* No. 11, 131–3(1958)(Russian and French summaries).—The detn. is based on the formation of a new complex compd. $[Cu\ Pip_2(SCN)_4]$ obtained from an aq. soln. of Cu sulfate (blue vitriol) with a reagent made of 0.1 g. piperazine in 40 cc. of 1% soln. of ammonium thiocyanate. For known quantities of Cu varying between 11.7 and 38.7 mg., the exptl. error in all cases was less than 0.10 mg. The presence of NH_4^+, K^+, Na^+, Co^{++}, and Ni^{++} had no influence on Cu analysis; but with Zn, Cd, Fe, and Al ions the results were not satisfactory. Mircea Fotino



Distr: 1132c/ 4E2c (J) ?

A new class of complex compounds. Metal ammine trithiosulfatobismuthates(III). G. Spacu and Georgeta Mihail (Univ. C. I. Parhon, Bucharest, Romania). *Analele univ. "C. I. Parhon" Bucuresti, Ser. stiint. nat.* No. 12, 45-50 (1960).—The purpose of this work was to establish the proof of the presence of the complex anion $Bi(S_2O_3)_3^{---}$ in the substance $K_3Bi(S_2O_3)_3$. The K^+ ion was substituted in soln. by different ammine complexes of Co. The compn. of the complex ppt. was detd. chemically. The following complex compds. were formed: $[Co(NH_3)_6][Bi(S_2O_3)_3]$ yellow, very stable; $[Co(NH_3)_5Cl]_3[Bi(S_2O_3)_3]$ violet, very stable; $[Co(NH_3)_4Cl_2]_3[Bi(S_2O_3)_3]$ green, not quite so stable; $[Co(NH_3)_4CO_3]_3[Bi(S_2O_3)_3]$ pink-purple, very stable; $[Co(NH_3)_4C_2O_4]_3[Bi(S_2O_3)_3]$ pink, stable; $[Co\ en_3][Bi(S_2O_3)_3]$ green, very yellow, very stable; $[Co\ en_2Br_2]_3[Bi(S_2O_3)_3]$ pale green, ---; *trans*-$[Co\ en_2Cl_2]_3[Bi(S_2O_3)_3]$ violet, stable; $[Co\ en_2(SCN)_2]_3[Bi(S_2O_3)_3]$ red, very stable.

A. Berlin

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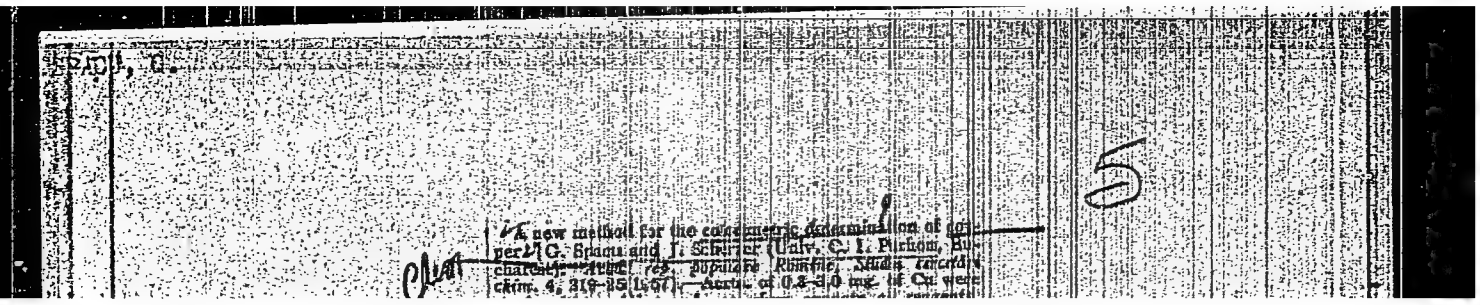
Distr: 4E2c(j)

Hexachloroplumbates. A new class of complex compounds. G. Spacu and M. Brezeanu. *Rev. chim., Acad. rép. populaire Roumaine* 2, 27-34(1957)(in French); cf. *CA*. 53, 5949a.—Metal ammine salts of $PbCl_6^{--}$ were prepd. by the reaction of the ammine with $(NH_4)_2PbCl_6$ in Cl water. Prepd. were: *cis*-$[Co(en)_2Cl_2]_2PbCl_6$ (violet), *trans*-$[Co(en)_2Cl_2]_2PbCl_6$ (green), $[Co(py)_4Cl_2]_2PbCl_6$ (green), $[Co(en)_3Cl]PbCl_6$ (yellow), $[Cr(en)_3]ClPbCl_6$ (yellow), and $[Co(NH_3)_4]NO_3PbCl_6$ (yellow). The reaction with $[Co(NH_3)_4]Cl_3$ gave a yellow intermediate, unstable in air, which turned brown. The intermediate was $[Co(NH_3)_5]ClPbCl_6$ (I) which was oxidized by O or OCl^- to $PbCl_6[Co(NH_3)_4]O[Co(NH_3)_4]PbCl_6$. Aq. solns. of I also turned brown in a Cl atm. or *in vacuo*. The nitrate analog of I is stable in air. Piperazine.H_2PbCl_6, (urotropine)$_2$.H_2PbCl_6, (quinine.HCl)$_2$.H_2PbCl_6, and (strychnine.HCl)$_2$.$2H_2PbCl_6$.-3strychnine were also prepd. R. F. Trimble, Jr.



chloroform extn. was found to be [illegible] the reagents is used and if the chloroform extn. is executed at pH 8 at 20°. The presence of small amts. of Mn, Zn, Ag, and Hg ions may be tolerated, but Co, Cd, Pb, ferric, and Al ions interfere. Francis Kertesz

SPACU, G.

The study of thio compounds. Complex thiomolybdates and thiotungstates. I. Series $[Cr(NH_3)_6][MoS_4]$, $[Cr(NH_3)_5Cl][MoS_4]$, $[Cr(OH)_2en_2][MoS_4]$, $[Cr(NH_3)_6][WS_4]$, $[Cr(NH_3)_5Cl][WS_4]$, $[Cr(NH_3)_5Br][WS_4]$, $[Cr(OH)_2en_2]_2[WS_4]_3$ SO_4. Gheorghiu (C. I. Perlon Univ., Bucharest). *Acad. rep. populare Romîne, Studii cercetări chim.* 5, 169-88(1957).—The existence of thiomolybdic acids (I) and thiotungstic acids (II) in soln. was investigated by isolating them by aid of org. bases, like aminopyridine, ethylenediamine, hexamethylenetetramine, and 1,10-phenanthroline. In order to stabilize the ions of I and II, they were combined with complex metallic amines of Cr and Cu; and it is found that such salts are more stable than the known alkali salt. New compds. prepd. this way are $[Cr(NH_3)_6][MoS_4]$ $NO_3 \cdot {}^1/_2H_2O$; $[Cr(NH_3)_5Cl][MoS_4]$; $[Cr_2(OH)_2en_4][MoS_4]_2$ SO_4; $[Cr_2(OH)_2en_4][MoS_4]_2$ Cl_2; $(Cu\ en_2)[MoS_4] \cdot {}^1/_2H_2O$; $[Cr(NH_3)_6][WS_4]$ $NO_3 \cdot {}^1/_2H_2O$; $[Cr(NH_3)_6]_2(WS_4)_3$; $[Cr(NH_3)_5Cl][WS_4]$; $[Cr(NH_3)_5Br][WS_4]$; $[Cr_2(OH)_2en_4]_2[WS_4]_3$ SO_4. From these the salts with the above named bases were prepd., and by aid of these salts it could be shown that the II are stable even in the presence of AcOH, whereas the I are very sensitive to the presence of even traces of H^+.

Werner Jacobson

27

Separation and determination of nickel in presence of iron and aluminum. G. Spacu and Claudia Vasilescu (Univ. Bucharest, Romania). *Analele univ. "C. I. Parhon" Bucuresti, Ser. stiint. nat.* No. 13, 59-64 (1957) (French and Russian summaries).—The Fe and Ni ions are maintained in soln. as complex sol. compds. of sulfosalicylic acid, while the Ni present is pptd. with pyridine as [Ni py$_4$](SCN)$_2$ by the method of G. Spacu and J. Dick (C.A. 21, [illegible]). 10 references. M. [illegible]

SPACU, G.

C.

RUMANIA/Inorganic Chemistry - Complex Compounds.

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 31998

Author : G. Spacu, P. Spacu, El. Radulescu

Inst : "C.I. Parhon" University.

Title : A New Class of Complex Compounds. Complex Pyridazine-rhodanites and Pyridazinehalides of Metals.

Orig Pub : An. Univ. "C.I. Parhon". Ser. stiint. natur., 1957, No 13, 65-74

Abstract : $MPdz_2(SCN)_2$ (where M = Cu(2+), Cu(1+), Co, Ni, Cd, Fe and Zn) and $CuPdz(SCN)$, as well as $MPtzCl_2$ (where M = Cd, Hg, Cu and Mn) were prepared by adding pyridazine (Pdz) and NH_4SCN to aqueous solution of Cu(2+), Cu(1+), Co, Ni, Cd, Fe and Zn salts or the aqueous solution of Cd, Hg Cu and Mn halides. $CdPdzBr_2$ and $CdPdzI_2 \rightleftharpoons [CdI_4][CdIdz_2]$ (sic!).

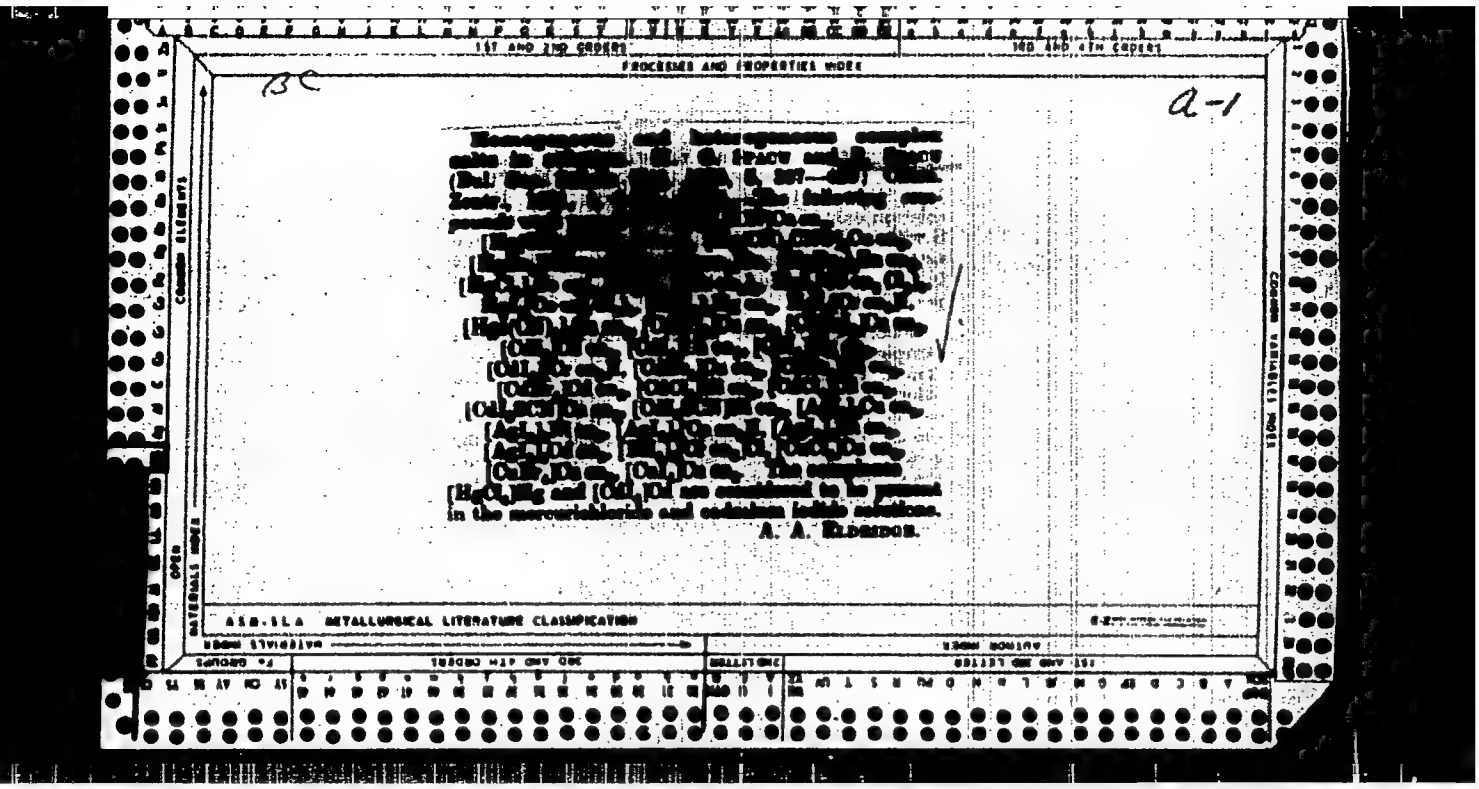
Card 1/1

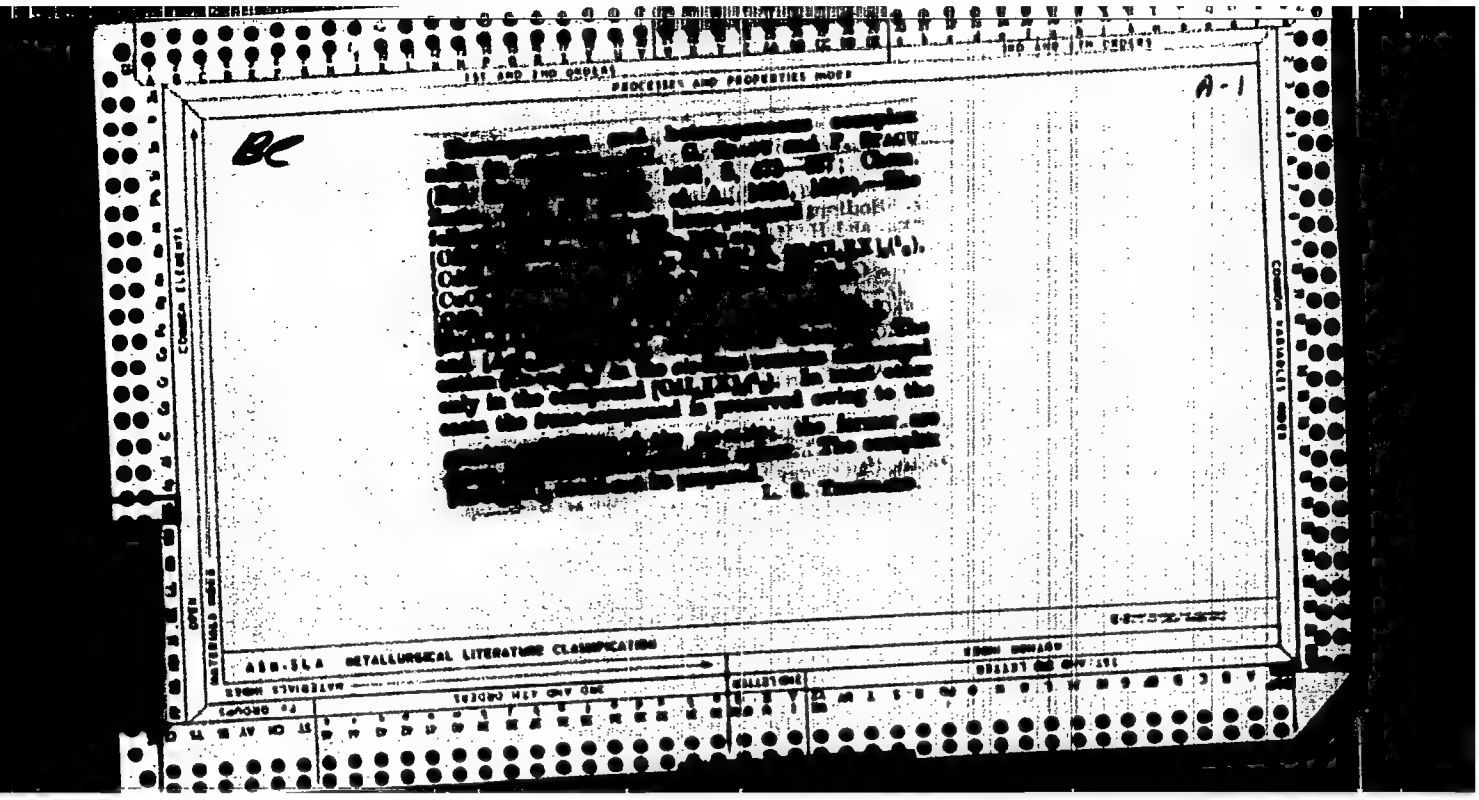
12 Mar

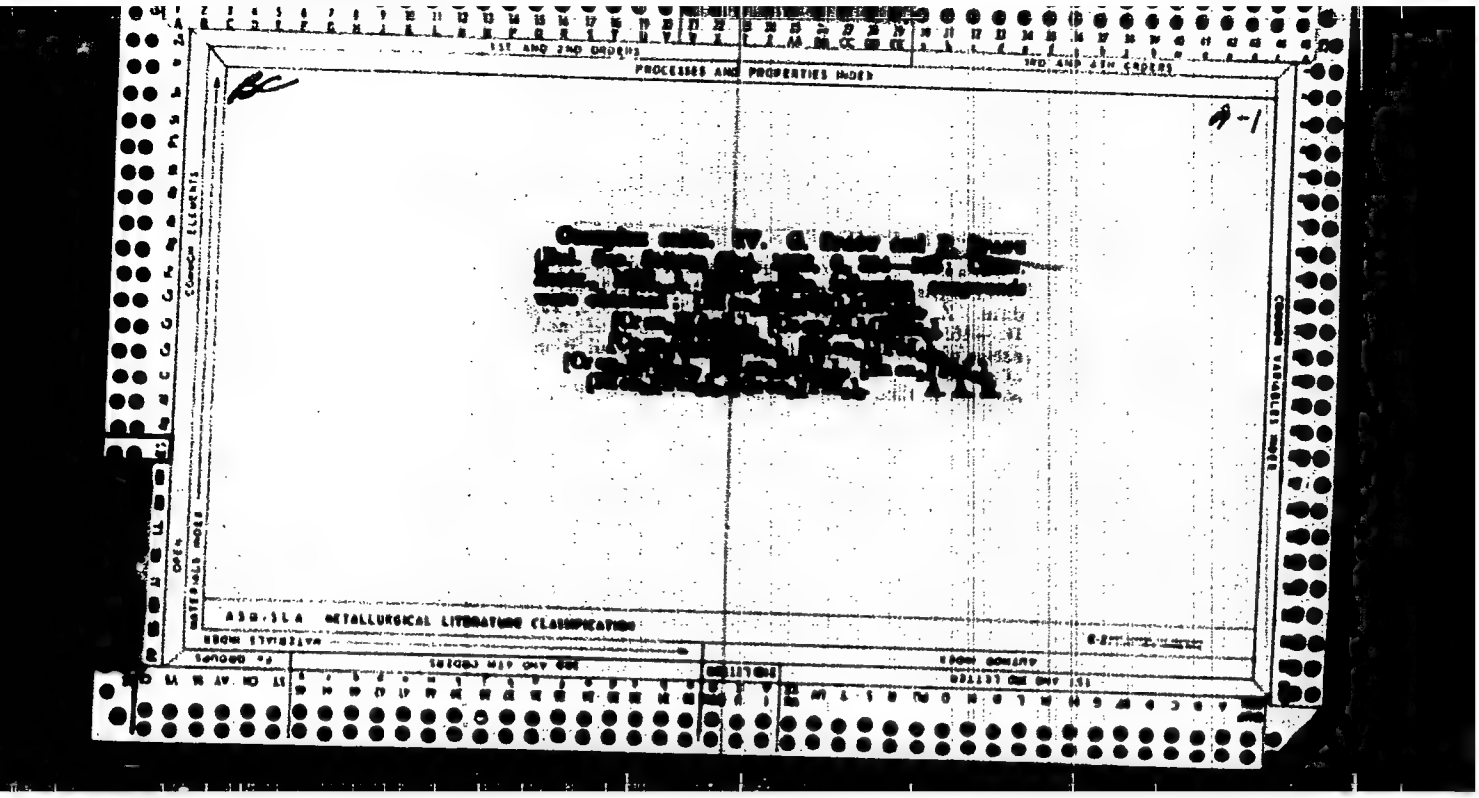
Distr: 4E2c(j)

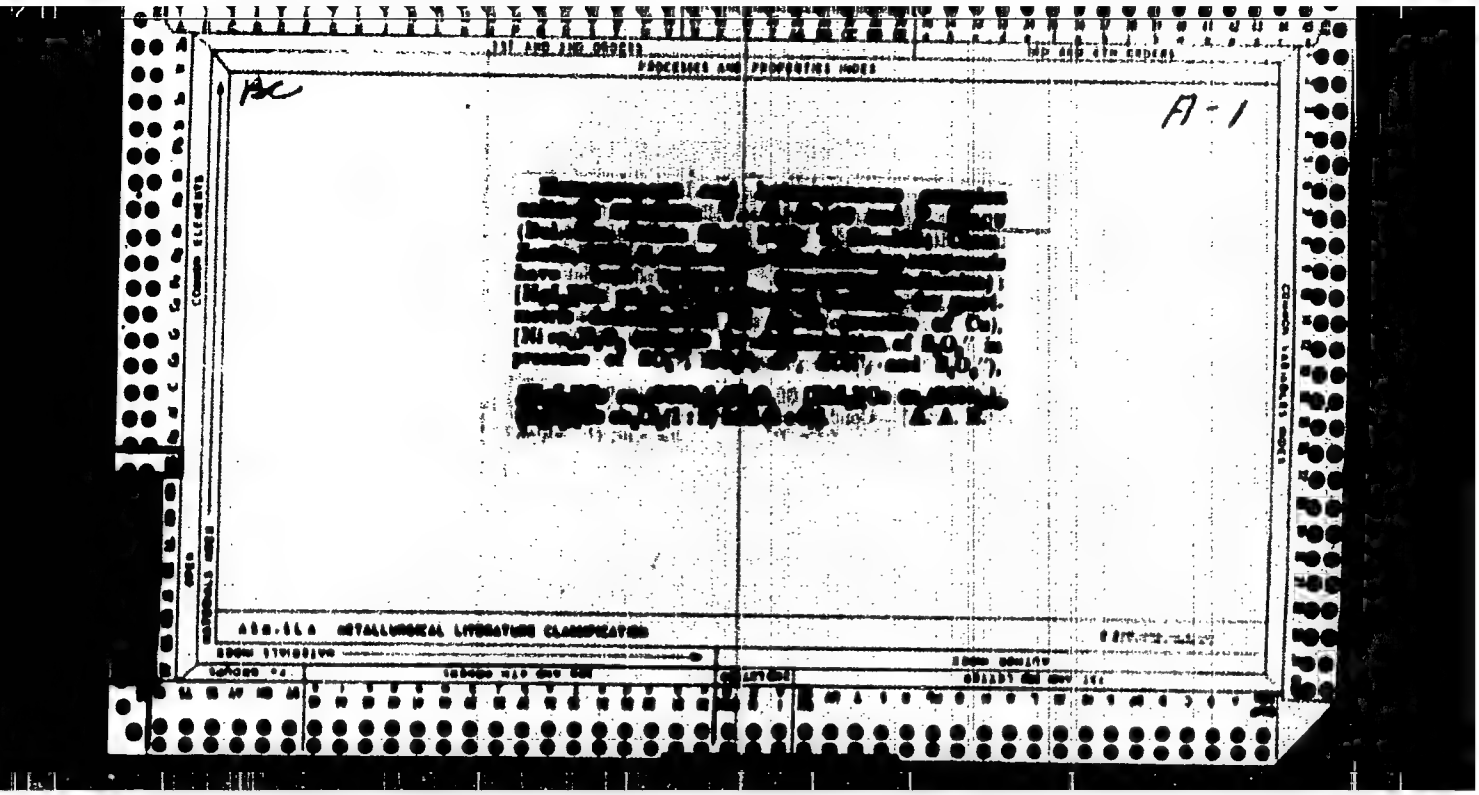
Complex compounds of the type $[Copy_4Cl_2]Cl$. P. Spacu, A. Ianu, and E. Nicolau (Univ. C. I. Parhon, Bucharest, Romania). *Analele Univ. C. I. Parhon, Bucuresti, Ser. stiint. nat.* 15, 73–81(1957).—An improvement in yield in the synthesis of $(Copy_4Cl_2)Cl$ by the method of Werner has been achieved by changing the proportions of the reacting substances. A satd. soln. of $CoCl_2.6H_2O$ was used with a very large excess of pyridine (py) and Cl^-; the yield was 47%. By concg. this soln., $H_2(Copy_4Cl_6)$ (I) was obtained. Upon treatment of this same soln. with an excess of KCNS, $H_2[Co(SCN)_4py_2]$.HSCNpy (II) was isolated. I and II are blue. From the ion $(Copy_4Cl_2)^+$ (III), the following compds. were prepd. and analyzed: chlorate, perchlorate, dichromate (acidic and neutral), permanganate, and vanadate. All these substances are green with the exception of the permanganate which is brown. In order to elucidate the structure of these compds., replacement of pyridine in III by other groups was tried. Thus $[Co(NH_3)_4Cl]Cl$ was obtained by treatment of III with an NH_3 soln. On the other hand when III was treated with KNO_2, a brown-colored mixt. of substances was obtained. If, instead, III was treated with a small excess of cold KNO_2, green $[Copy_2Cl_2NO_2]$ pptd. A. Berlin

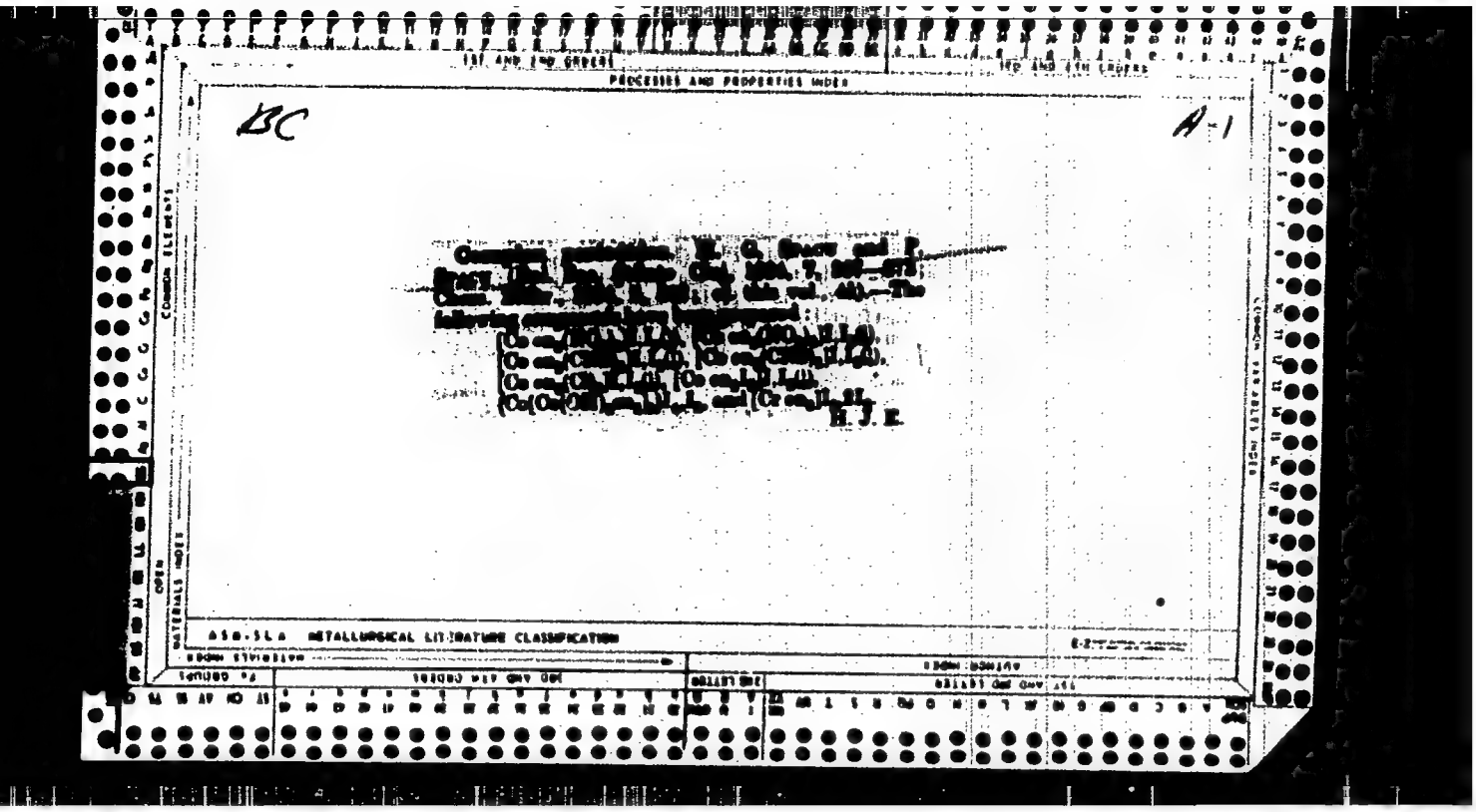
RB
III

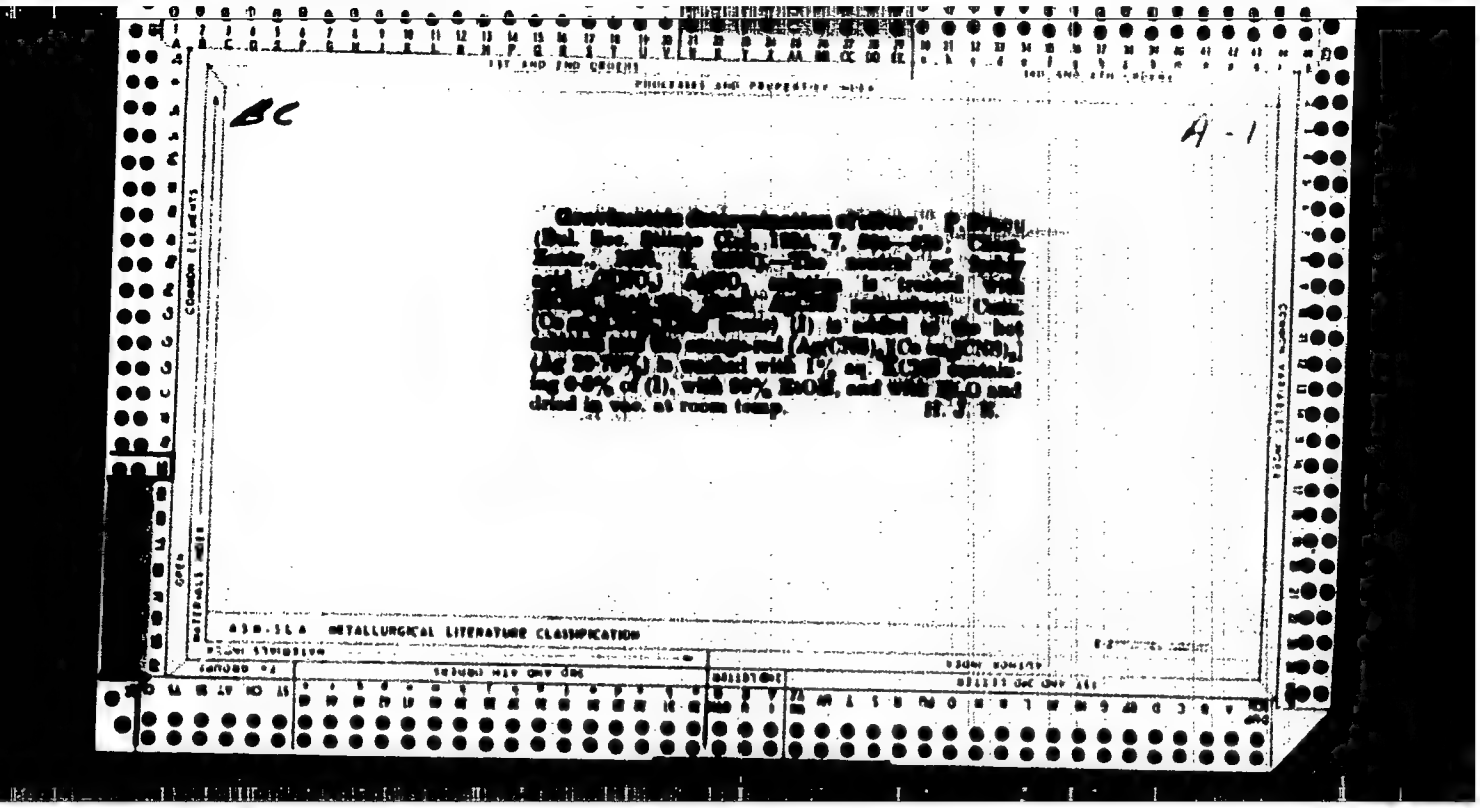


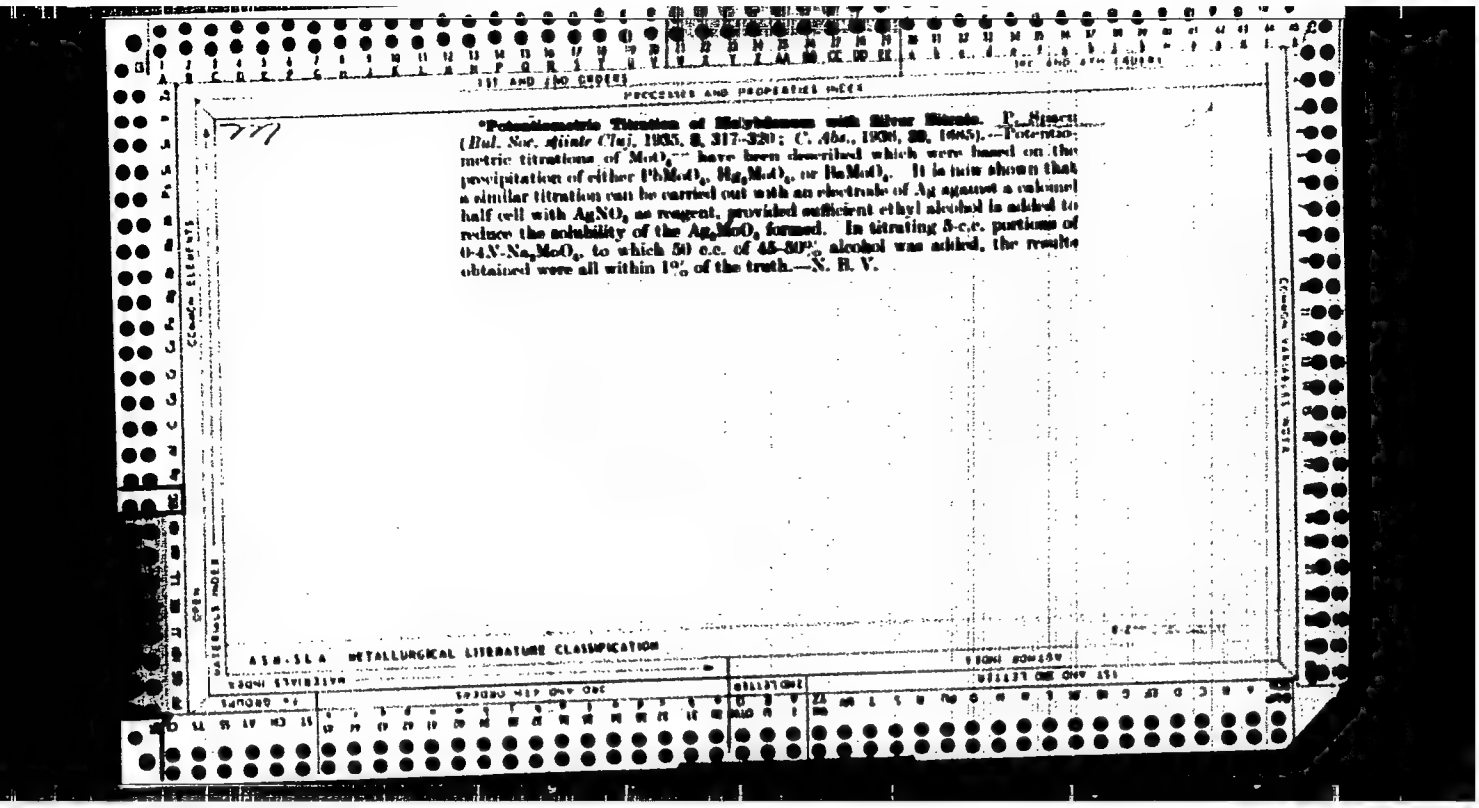






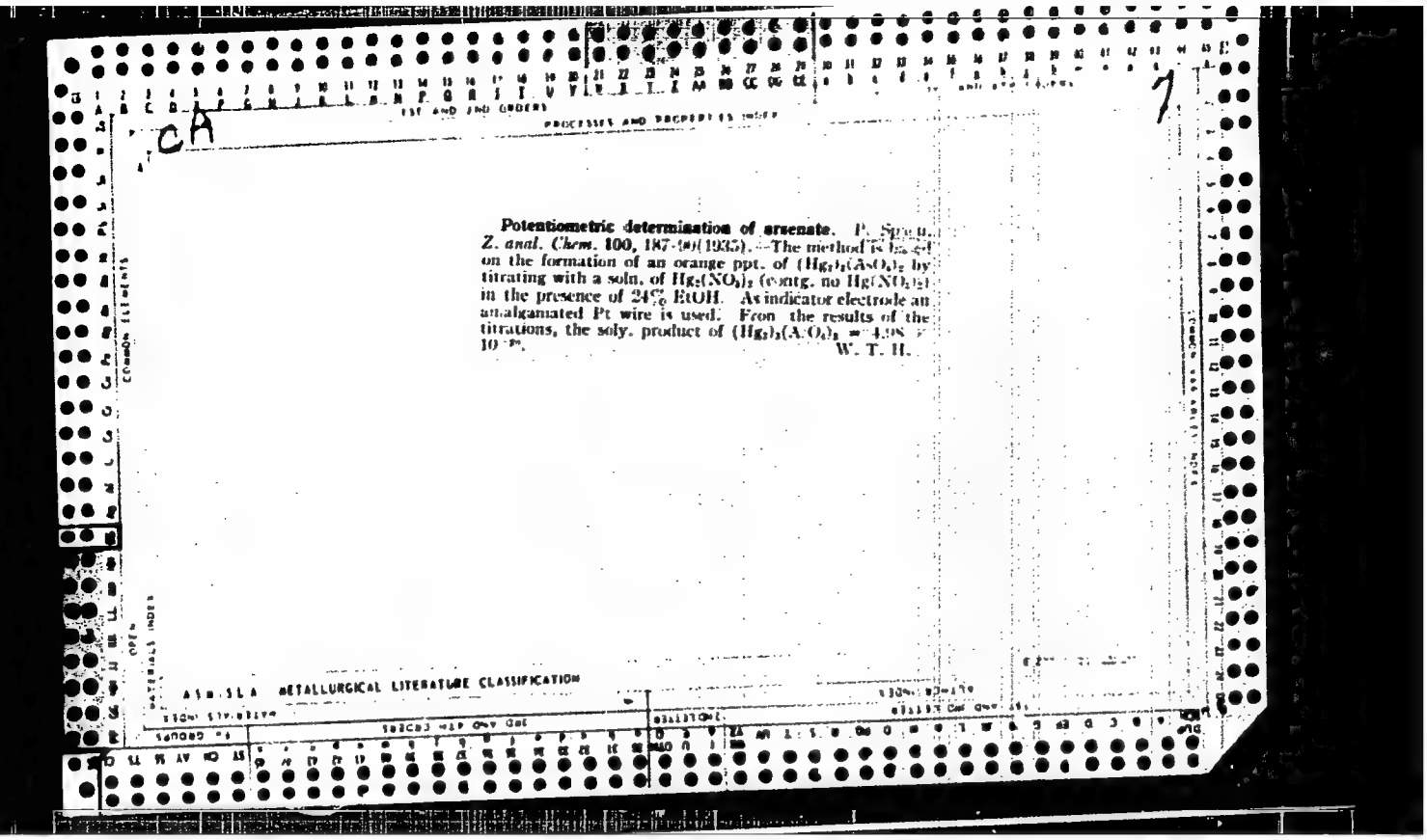






777

***Potentiometric Titration of Molybdenum with Silver Nitrate.** P. Sisera (*Bul. Soc. științe Cluj*, 1935, **8**, 317–320; *C. Abs.*, 1936, **30**, 4665).—Potentiometric titrations of MoO_4^{--} have been described which were based on the precipitation of either $Pb(MoO_4)_2$, Hg_2MoO_4, or $BaMoO_4$. It is now shown that a similar titration can be carried out with an electrode of Ag against a calomel half cell with $AgNO_3$ as reagent, provided sufficient ethyl alcohol is added to reduce the solubility of the Ag_2MoO_4 formed. In titrating 5-c.c. portions of 0·4*N*-Na_2MoO_4 to which 50 c.c. of 45–80% alcohol was added, the results obtained were all within 1% of the truth.—N. B. V.



Potentiometric determination of arsenate. P. Spacu. *Z. anal. Chem.* **100**, 187-90(1935).—The method is based on the formation of an orange ppt. of $(Hg_2)_3(AsO_4)_2$ by titrating with a soln. of $Hg_2(NO_3)_2$ (contg. no $Hg(NO_3)_2$) in the presence of 24% EtOH. As indicator electrode an amalgamated Pt wire is used. From the results of the titrations, the soly. product of $(Hg_2)_3(AsO_4)_2$ = 4.08 × 10^{-28}. W. T. H.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

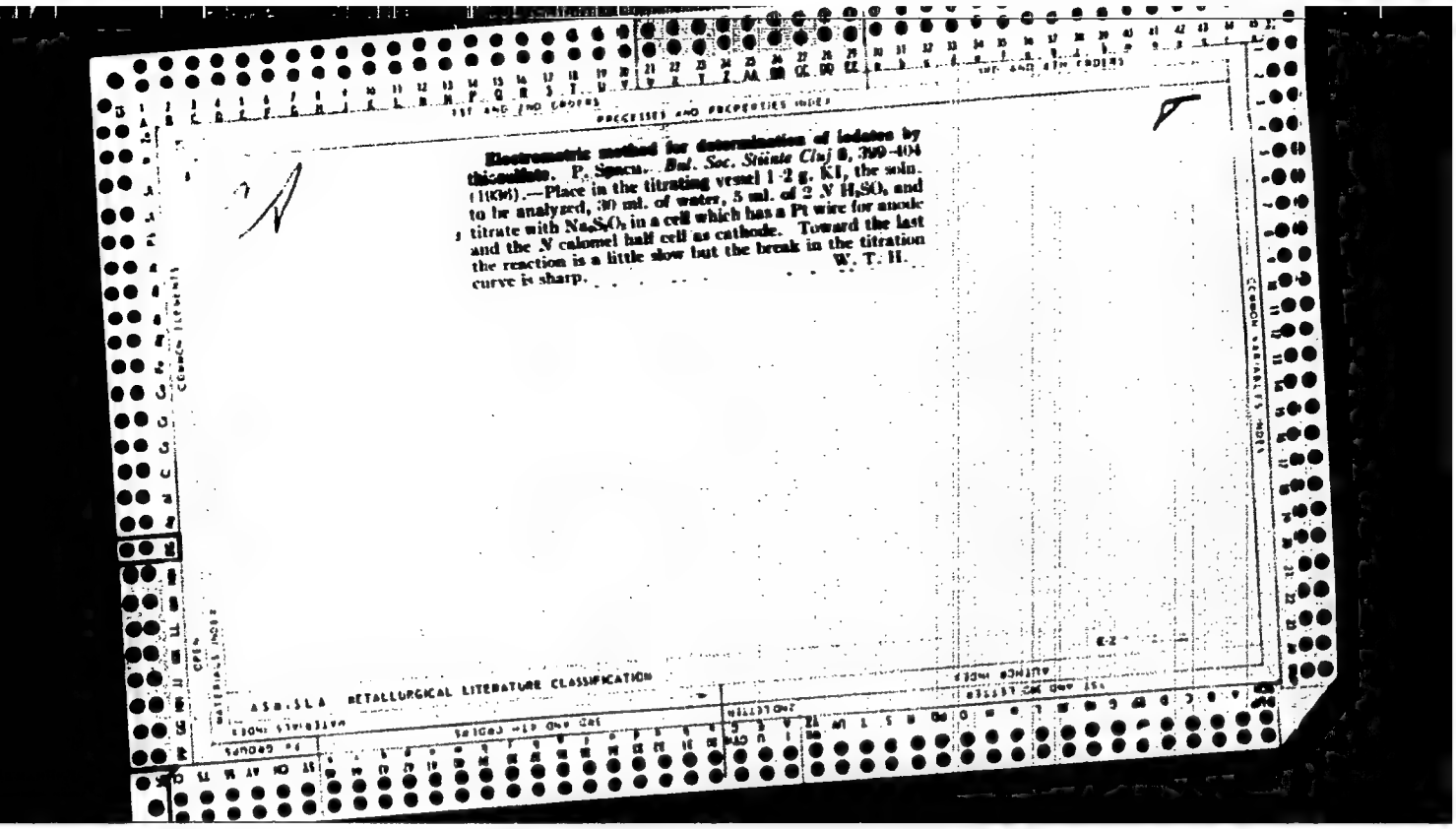
BC

A-1

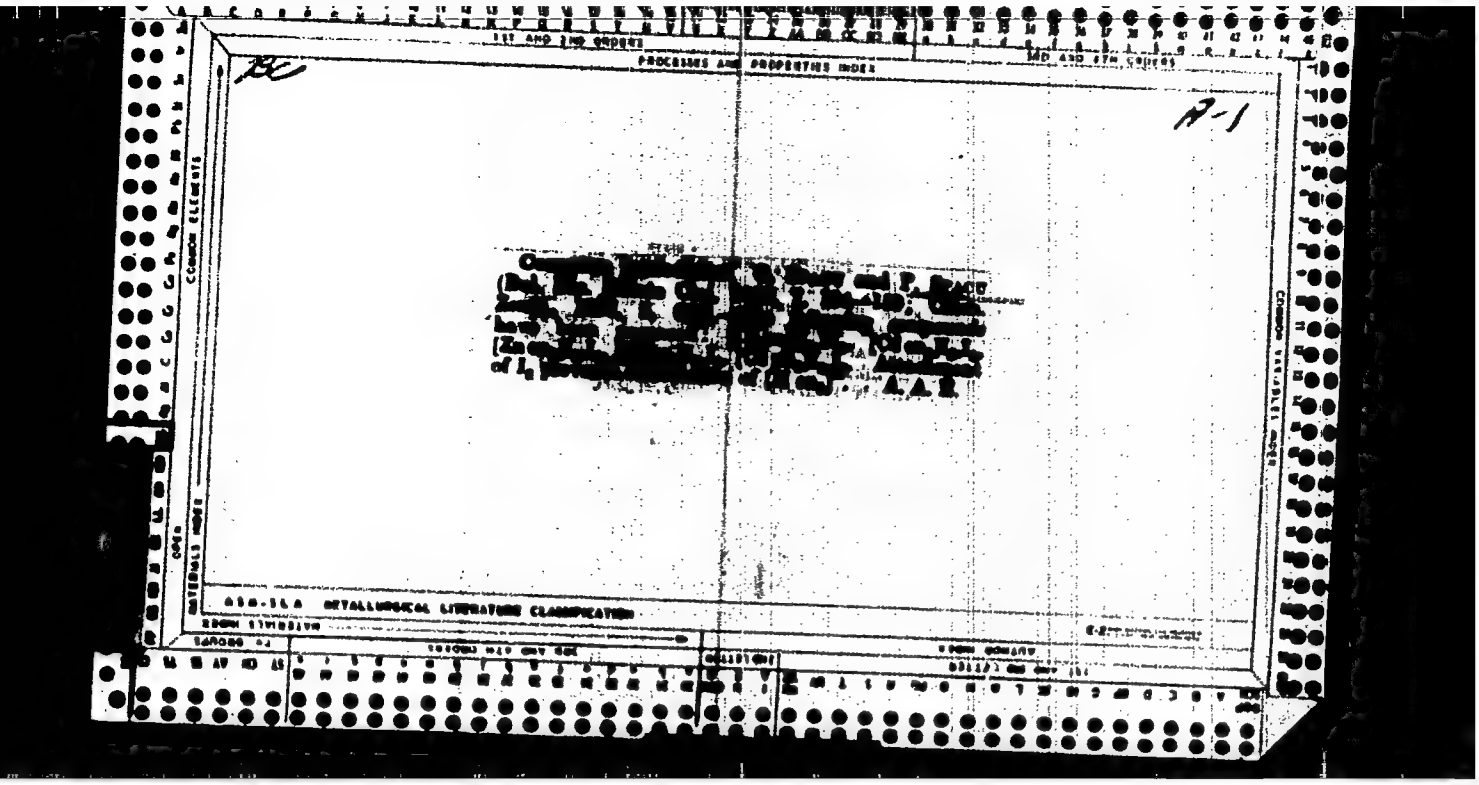
Silver-mercury complex. P. Spacu (Bul. Soc. Stiinte Cluj, 1938, 9, 264—265; Chem. Abstr., 1938, ii, 2008).—The salt described by Wöhler (A., 1886, 1070) is considered to be $Ag[HgNO_3(CN)_2],2H_2O$, since when electrolysed it gives Ag at the cathode, and Hg and HCN at the anode. When treated with $o\text{-}C_6H_4Me\cdot NH_2$ (tol) in light petroleum is given $[Ag\ tol_2][HgNO_3(CN)_2]$.

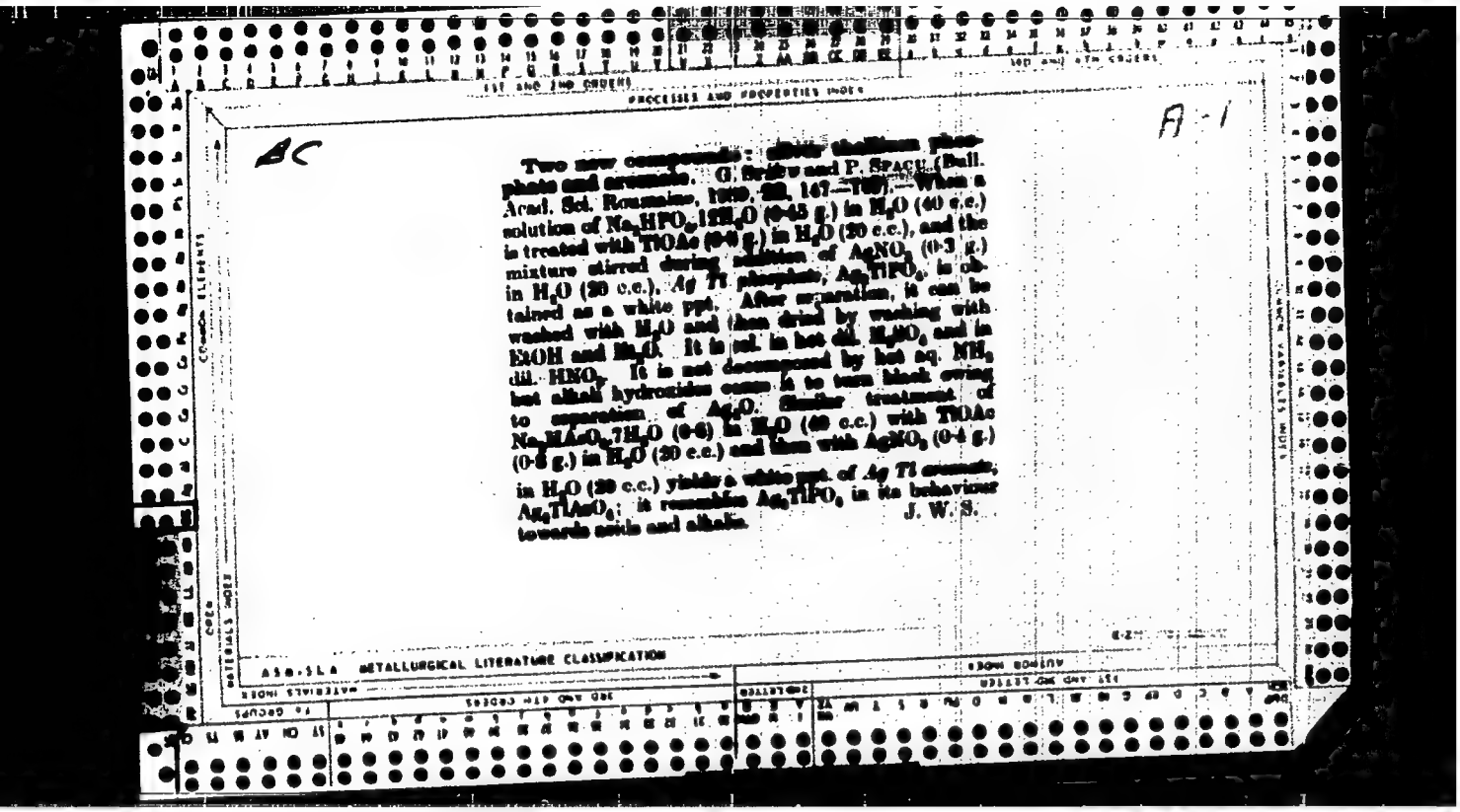
A. J. E. W.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Electrometric method for determination of iodates by thiosulfate. P. Spacu. *Bul. Soc. Stiinte Cluj* **8**, 399–404 (1936).—Place in the titrating vessel 1–2 g. KI, the soln. to be analyzed, 30 ml. of water, 5 ml. of 2 *N* H_2SO_4 and titrate with $Na_2S_2O_3$ in a cell which has a Pt wire for anode and the *N* calomel half cell as cathode. Toward the last the reaction is a little slow but the break in the titration curve is sharp. W. T. H.

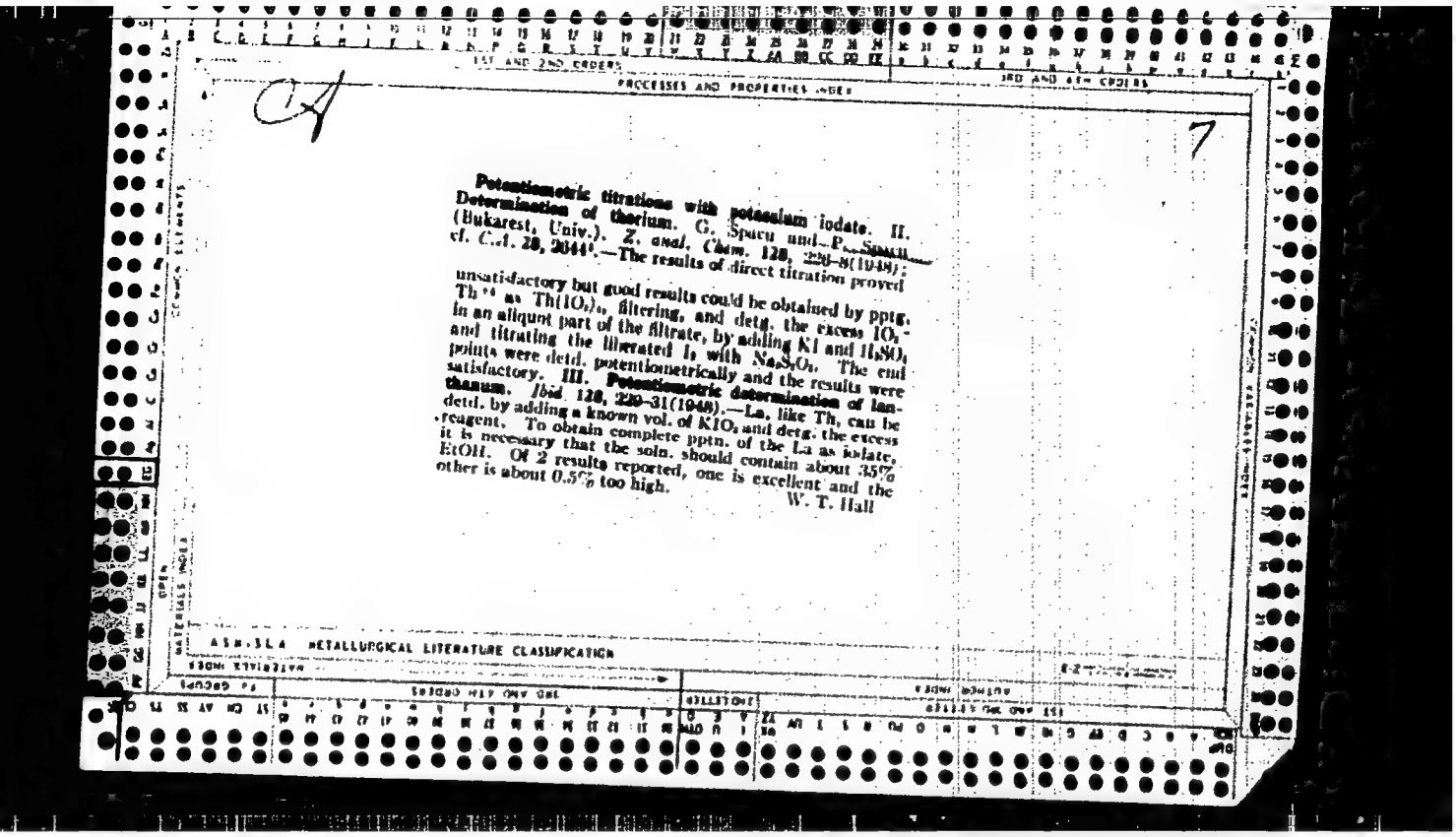




AC

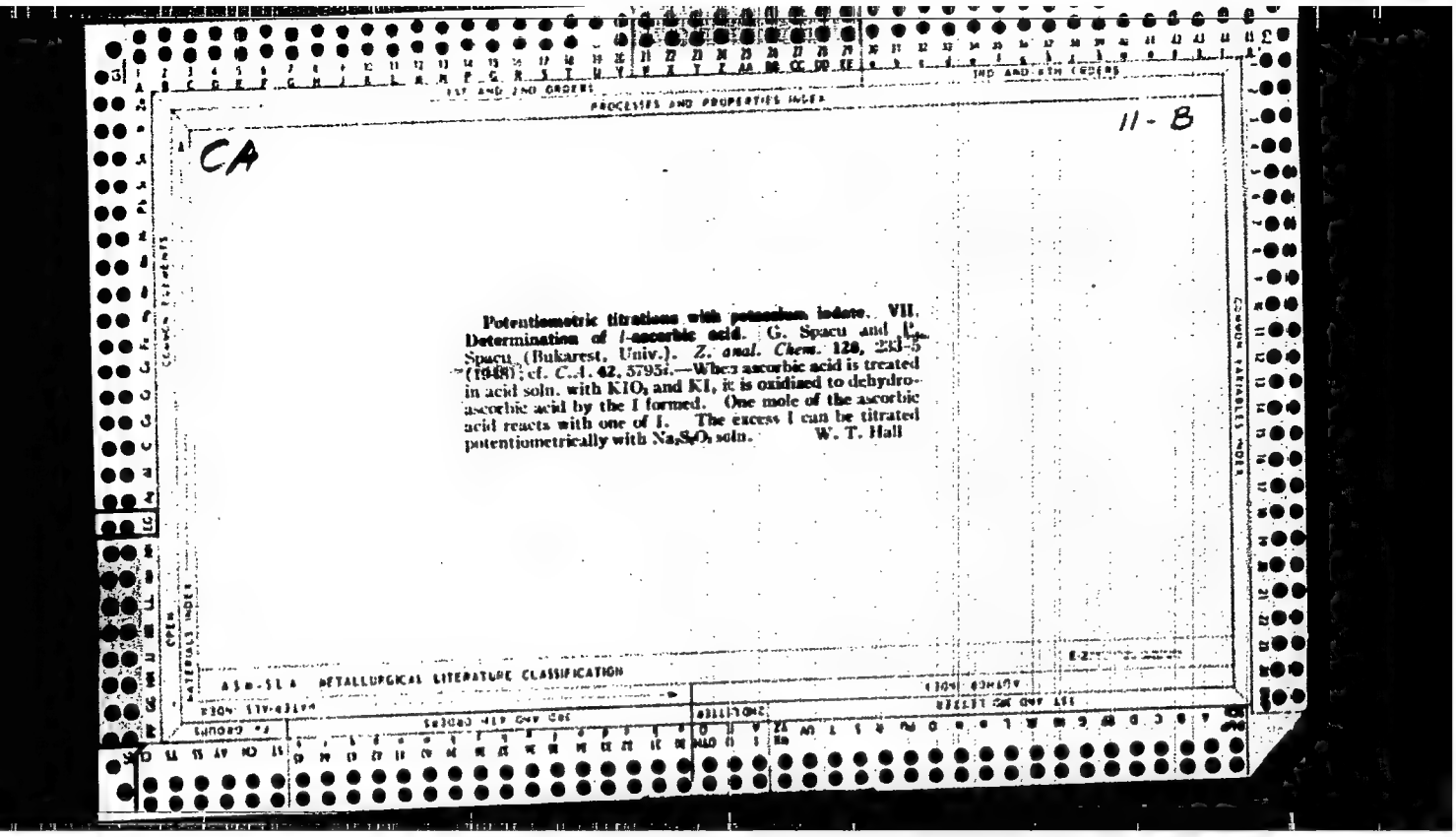
A-1

Two new compounds: silver thallium phosphate and arsenate. G. Spacu and P. Spacu. (Bull. Acad. Sci. Roumaine, 1939, 22, 147—149).—When a solution of $Na_2HPO_4.12H_2O$ (0·45 g.) in H_2O (40 c.c.) is treated with TlOAc (0·6 g.) in H_2O (20 c.c.), and the mixture stirred during addition of $AgNO_3$ (0·3 g.) in H_2O (20 c.c.), *Ag Tl* phosphate, Ag_2TlPO_4, is obtained as a white ppt. After separation, it can be washed with H_2O and then dried by washing with EtOH and Et_2O. It is sol. in hot dil. H_2SO_4 and in dil. HNO_3. It is not decomposed by hot aq. NH_3 but alkali hydroxides cause it to turn black owing to separation of Ag_2O. Similar treatment of $Na_2HAsO_4.7H_2O$ (0·6) in H_2O (40 c.c.) with TlOAc (0·6 g.) in H_2O (20 c.c.) and then with $AgNO_3$ (0·4 g.) in H_2O (20 c.c.) yields a white ppt. of *Ag Tl* arsenate, Ag_2TlAsO_4; it resembles Ag_2TlPO_4 in its behaviour towards acids and alkalis. J. W. S.



Potentiometric titrations with potassium iodate. II. Determination of thorium. G. Spacu and P. Spacu (Bukarest, Univ.). *Z. anal. Chem.* **128**, 229–8(1948); cf. *C.A.* **28**, 2044⁶.—The results of direct titration proved unsatisfactory but good results could be obtained by pptg. Th^{++} as $Th(IO_3)_4$, filtering, and detg. the excess IO_3^- in an aliquot part of the filtrate, by adding KI and H_2SO_4 and titrating the liberated I with $Na_2S_2O_3$. The end points were detd. potentiometrically and the results were satisfactory. III. Potentiometric determination of lanthanum. *Ibid.* **128**, 229–31(1948).—La, like Th, can be detd. by adding a known vol. of KIO_3 and detg. the excess reagent. To obtain complete pptn. of the La as iodate, it is necessary that the soln. should contain about 35% EtOH. Of 2 results reported, one is excellent and the other is about 0.5% too high.

W. T. Hall



CA

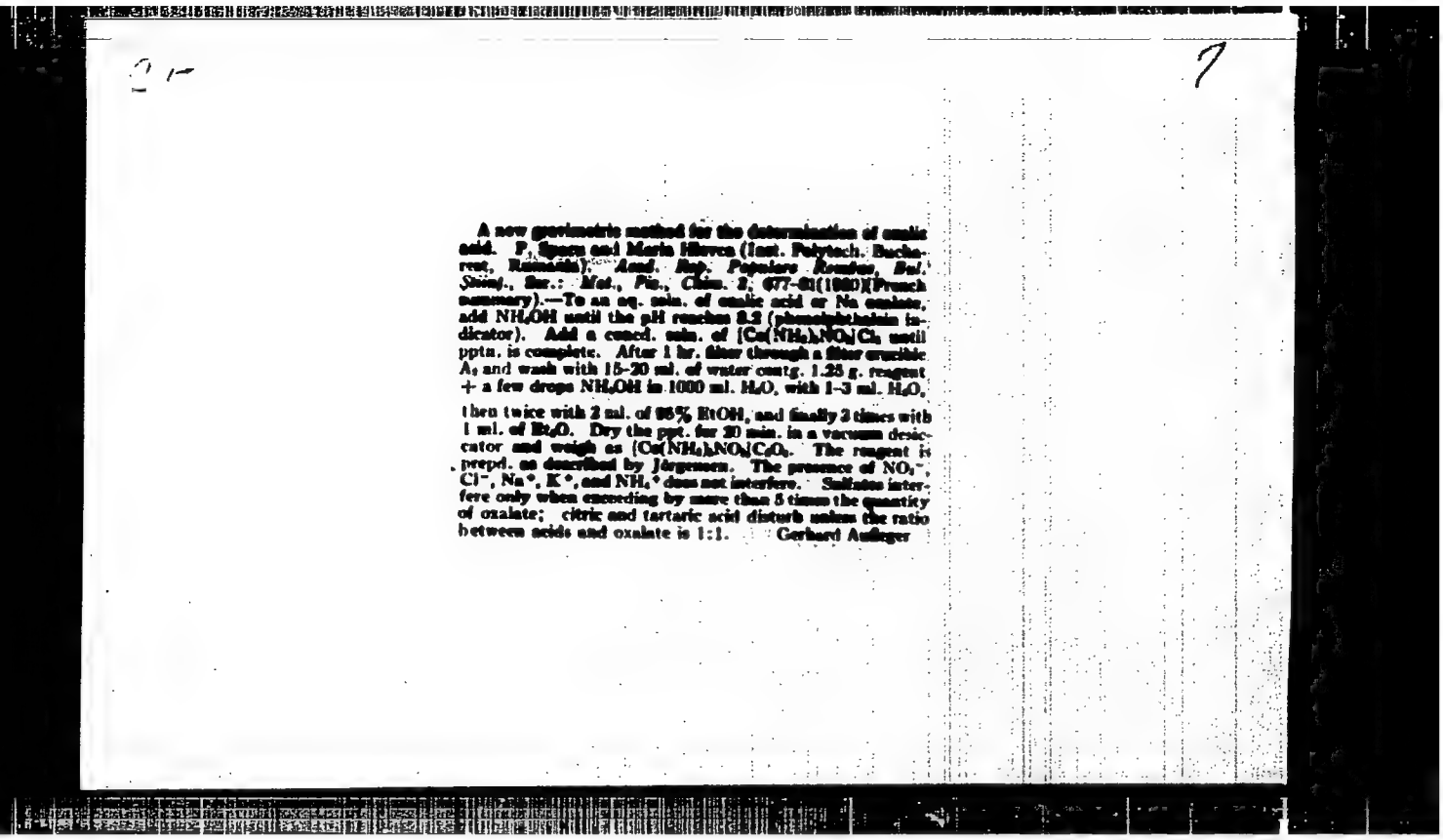
11-8

Potentiometric titrations with potassium iodate. VII. Determination of *l*-ascorbic acid. G. Spacu and P. Spacu (Bukarest, Univ.). *Z. anal. Chem.* **120**, 233-5 (1948); cf. *C.A.* **42**, 5795i.—When ascorbic acid is treated in acid soln. with KIO_3 and KI, it is oxidized to dehydroascorbic acid by the I formed. One mole of the ascorbic acid reacts with one of I. The excess I can be titrated potentiometrically with $Na_2S_2O_3$ soln. W. T. Hall

CA

6

A new class of ammines. The metallic phthalazine thiocyanates. G. Spacu and P. Spacu (Univ. Bucharest, Rumania). *Analele Acad. Rep. Populare Romîne, Sec. Stiinţe Mat., Fiz Chim.*, Ser. A, 2, *Mem.* 12, 20 pp. (1949) (French summary).—By treating aq. solns. of their salts with phthalazine (Phtlz) and then with NH_4SCN, Fe, Cu, Cd, Zn, and Ni form $MPhtlz_2(SCN)_2$, Pb forms $PbPhtlz(SCN)_2$, Mn forms $MnPhtlz_2(OH)SCN$, $MnPhtlz_2(SCN)_2$, and Co forms $CoPhtlz_2(OH)SCN$, $CoPhtlz_2(SCN)_2$. The Mn and Ni salts have 3 mols. of H_2O; the others are anhydrous. The Fe complex is sol. in some org. solvents, especially in chloroform (blood-red coloration used to identify ferrous ions); all the others are either insol. or decomp. in org. solvents. All decomp. in mineral acids and bases. An example of the method of prepn. is: treat 0.7 g. $ZnSO_4.7H_2O$ in 10 ml. H_2O with 0.7 g. phthalazine in 5 ml. H_2O and 0.4 g. NH_4SCN in 10 ml. H_2O, wash the white ppt. with a small amt. H_2O, and dry on a porous plate in vacuo at room temp. Gerhard Aufleger



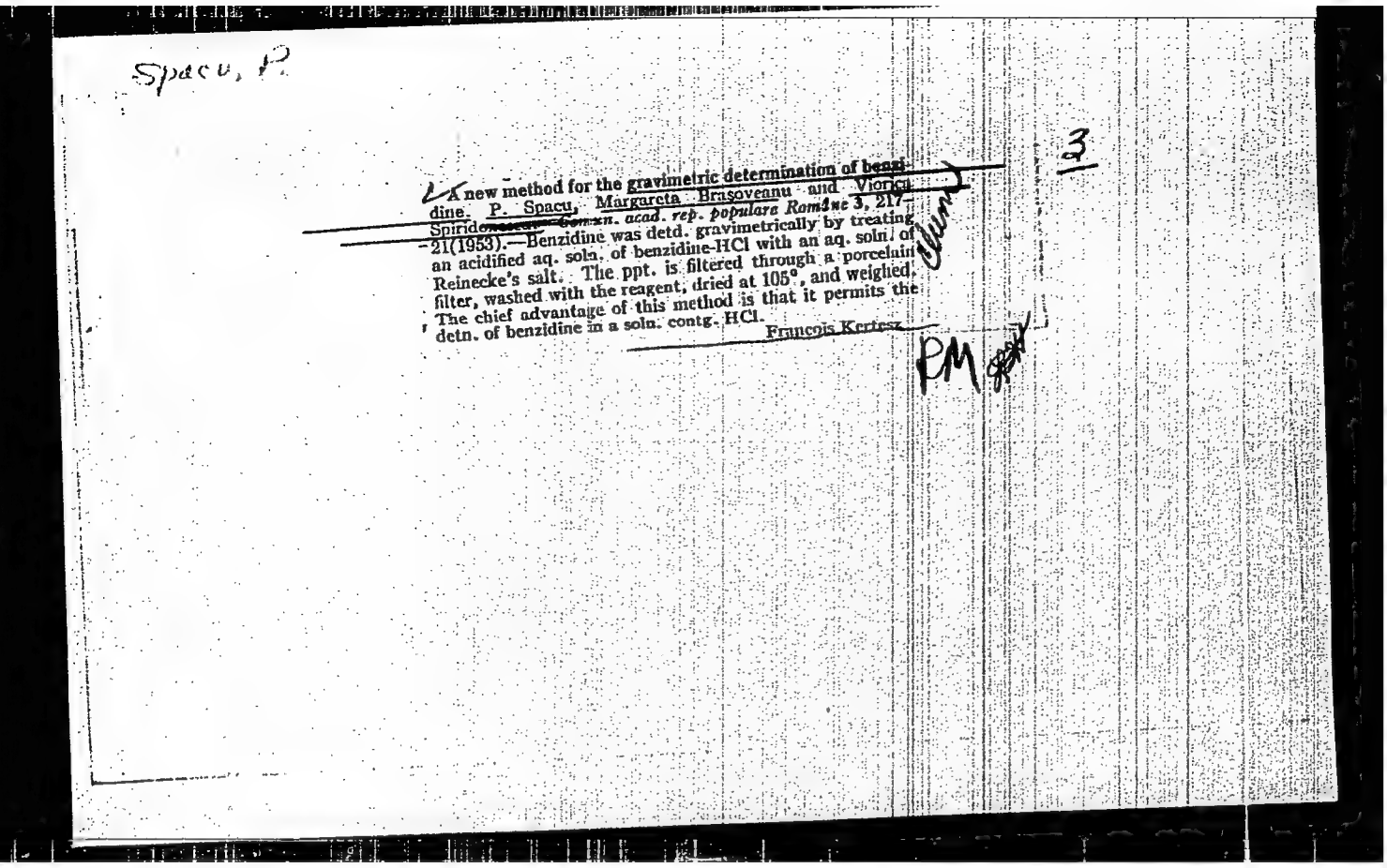
A new gravimetric method for the determination of oxalic acid. P. Spacu and Maria Hîrsca (Inst. Polytech. Bucharest, Romania). *Acad. Rep. Populare Romîne, Bul. Stiinţ., Ser.: Mat., Fiz., Chim.* 2, 677–81(1950)(French summary).—To an eq. soln. of oxalic acid or Na oxalate, add NH_4OH until the pH reaches 8.2 (phenolphthalein indicator). Add a concd. soln. of $[Co(NH_3)_5NO_2]Cl_2$ until ppta. is complete. After 1 hr. filter through a filter crucible A, and wash with 15–20 ml. of water contg. 1.25 g. reagent + a few drops NH_4OH in 1000 ml. H_2O, with 1–3 ml. H_2O, then twice with 2 ml. of 95% EtOH, and finally 3 times with 1 ml. of Et_2O. Dry the ppt. for 20 min. in a vacuum desiccator and weigh as $[Co(NH_3)_5NO_2]C_2O_4$. The reagent is prepd. as described by Jörgensen. The presence of NO_3^-, Cl^-, Na^+, K^+, and NH_4^+ does not interfere. Sulfates interfere only when exceeding by more than 5 times the quantity of oxalate; citric and tartaric acid disturb unless the ratio between acids and oxalate is 1:1. Gerhard Ambiger

Spacu, P.

A new method for the gravimetric determination of silver. P. Spacu and M. Hleyca. *Comun. Acad. Rep. Populare* [illegible], 211–15(1953).—Ag was detd. gravimetrically by treating the aq. soln. of Ag^+ with a 1% soln. of K xanthate at room temp. The yellow ppt. of Ag xanthate is insol. in H_2O, ether, or alc. After addn. of 2 drops of an aq. pyridine soln., the ppt. is filtered through a porcelain filter and washed in distd. H_2O, alc., and ether. François Kertesz

2

PM



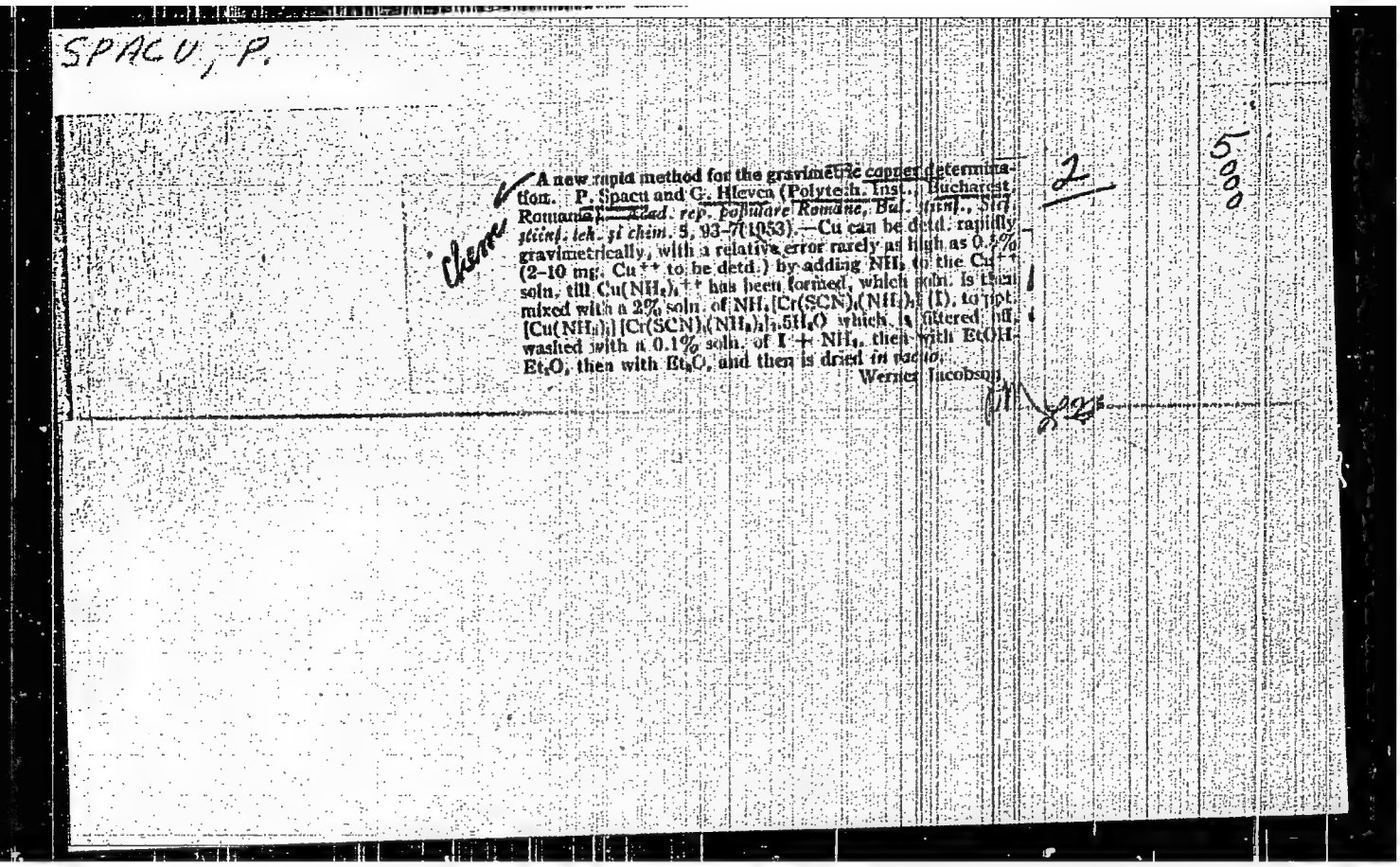
Spacu, P.

3

A new method for the gravimetric determination of benzidine. P. Spacu, Margareta Brăşoveanu and Viorica Spiridon. *Comun. acad. rep. populare Romîne* 3, 217-21(1953).—Benzidine was detd. gravimetrically by treating an acidified aq. soln. of benzidine-HCl with an aq. soln. of Reinecke's salt. The ppt. is filtered through a porcelain filter, washed with the reagent, dried at 105°, and weighed. The chief advantage of this method is that it permits the detn. of benzidine in a soln. contg. HCl.

François Kertesz

PM



SPACU, P.

Chem

A new rapid method for the gravimetric copper determination. P. Spacu and G. Hieveș (Polytech. Inst., Bucharest, Romania). *Acad. rep. populare Romîne, Bul. ştiinţ., Sec. ştiinţ. tehn. şi chim.* 5, 93–7(1953).—Cu can be dctd. rapidly gravimetrically, with a relative error rarely as high as 0.5% (2–10 mg. Cu^{++} to be dctd.) by adding NH_3 to the Cu^{++} soln. till $Cu(NH_3)_4^{++}$ has been formed, which soln. is then mixed with a 2% soln. of $NH_4[Cr(SCN)_4(NH_3)_2]$ (I), to ppt. $[Cu(NH_3)_4][Cr(SCN)_4(NH_3)_2]_2.5H_2O$ which is filtered off, washed with a 0.1% soln. of I + NH_4, then with EtOH, Et_2O, then with Et_2O, and then is dried *in vacuo*.

Werner Jacobson

2

5000

Spacu, P.

Rumania/Chemical Technology. Chemical Products and Their Application -- Mineral salts. Oxides. Acids. Bases, I-5

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5021

Author: Spacu, P., Voichescu, P., Ovanesian, A.

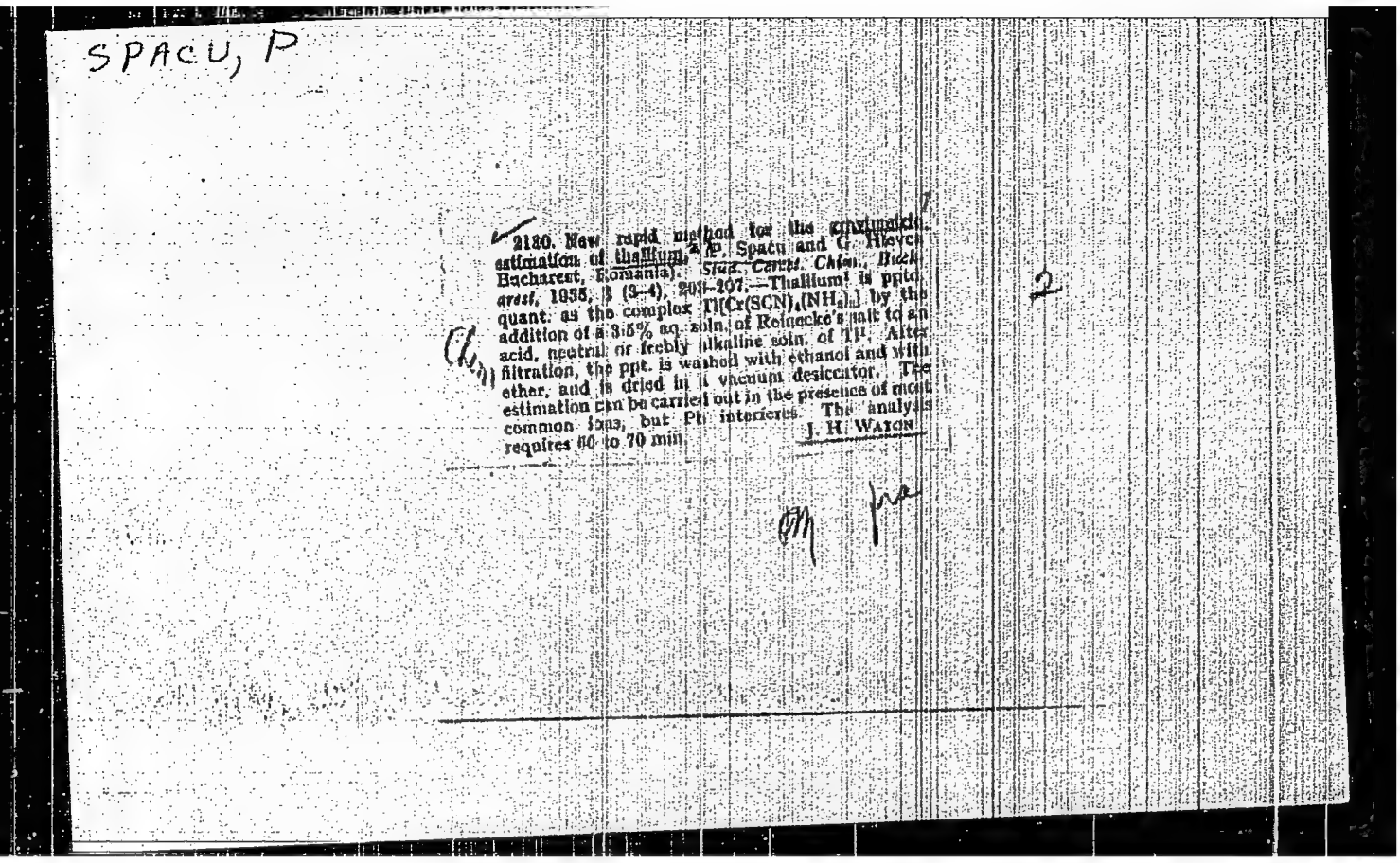
Institution: None

Title: Products Obtained on Action of Chlorine on Some Silicates. Production of Silicon Tetrachloride from Diatomite

Original Publication: Studii si cercetari chim., 1955, 3, No 3-4, 195-201

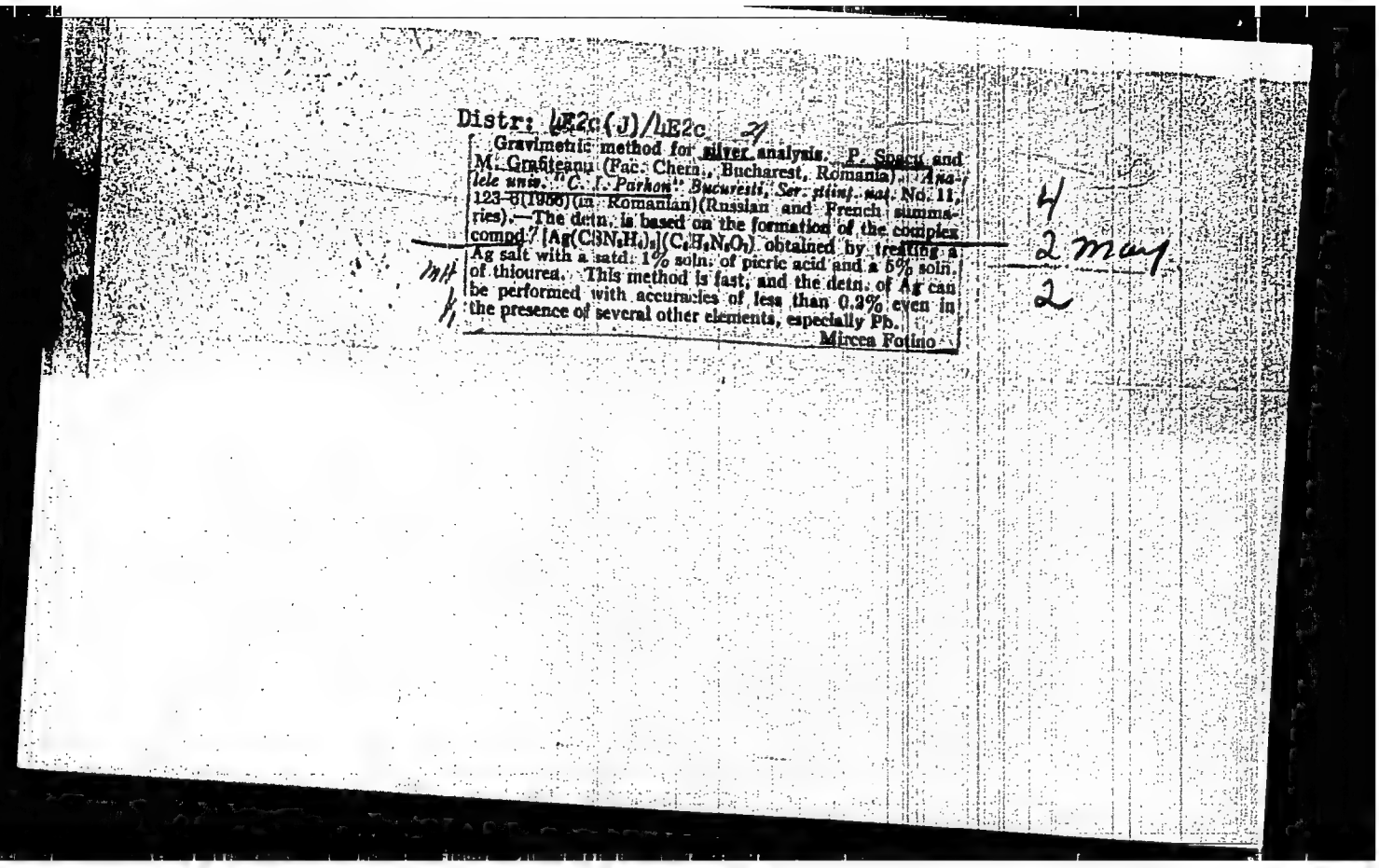
Abstract: $SiCl_4$ was obtained by chlorination of diatomite (containing a small amount of Fe_2O_3) in the presence of coal as a reducing agent. The diatomite being porous has a large contact surface of active silica, which makes possible a ready reduction; the chlorination reaction takes place at a low temperature (730-750°). Bisulfite liquor is used as binder for the raw material. Yield of $SiCl_4$ is 46-50%.

Card 1/1



SPACU, P

2180. New rapid method for the gravimetric estimation of thallium. P. Spacu and G. Hlevca (Bucharest, Romania). *Studii Cercet. Chim., Bucharest*, 1955, 3 (3–4), 203–207.—Thallium is ppted. quant. as the complex $Tl[Cr(SCN)_4(NH_3)_2]$ by the addition of a 3.5% aq. soln. of Reinecke's salt to an acid, neutral or feebly alkaline soln. of Tl^+. After filtration, the ppt. is washed with ethanol and with ether, and is dried in a vacuum desiccator. The estimation can be carried out in the presence of most common ions, but Pb^{++} interferes. The analysis requires 60 to 70 min. J. H. WATON

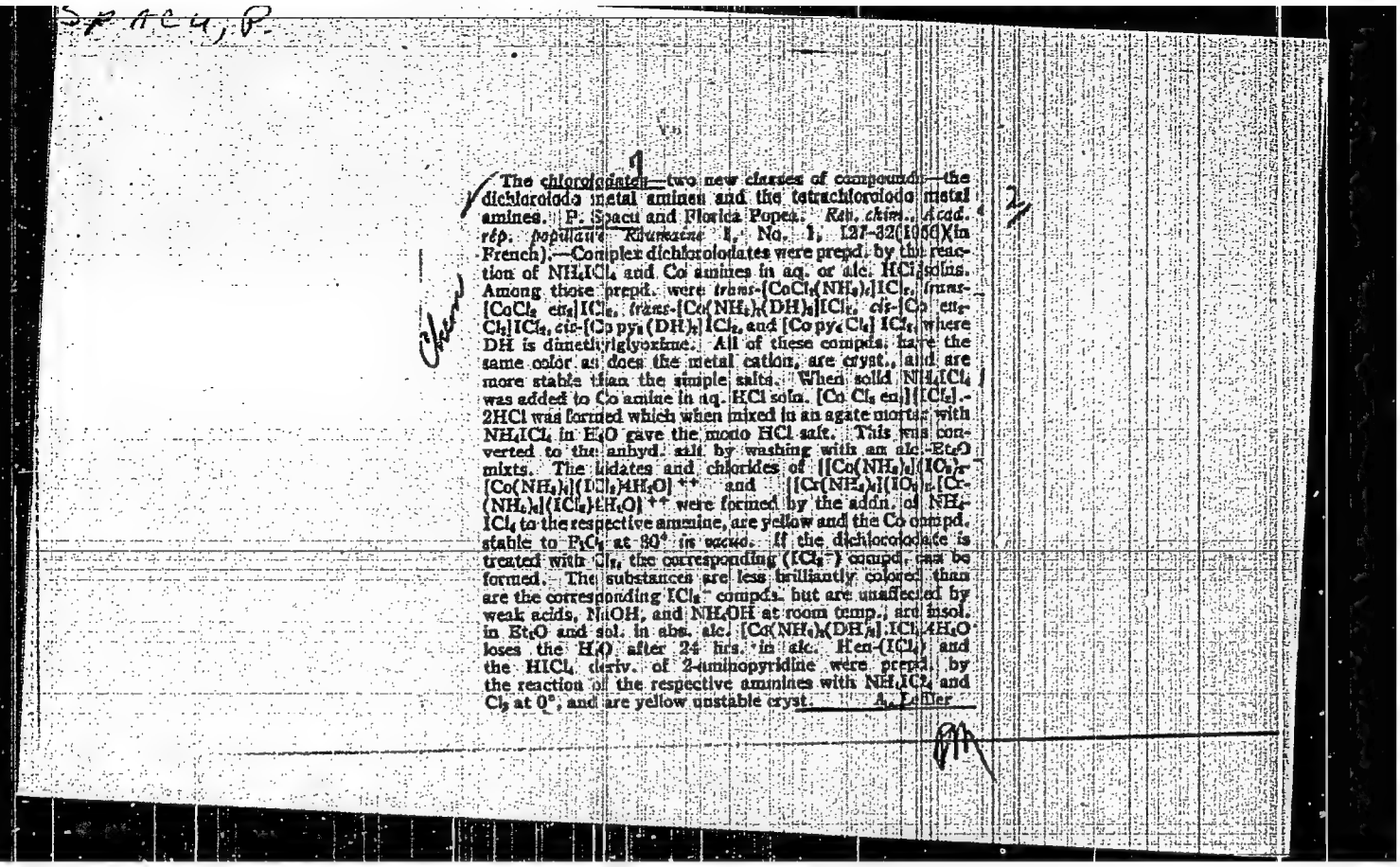


Distr: 4E2c(J)/4E2c 4

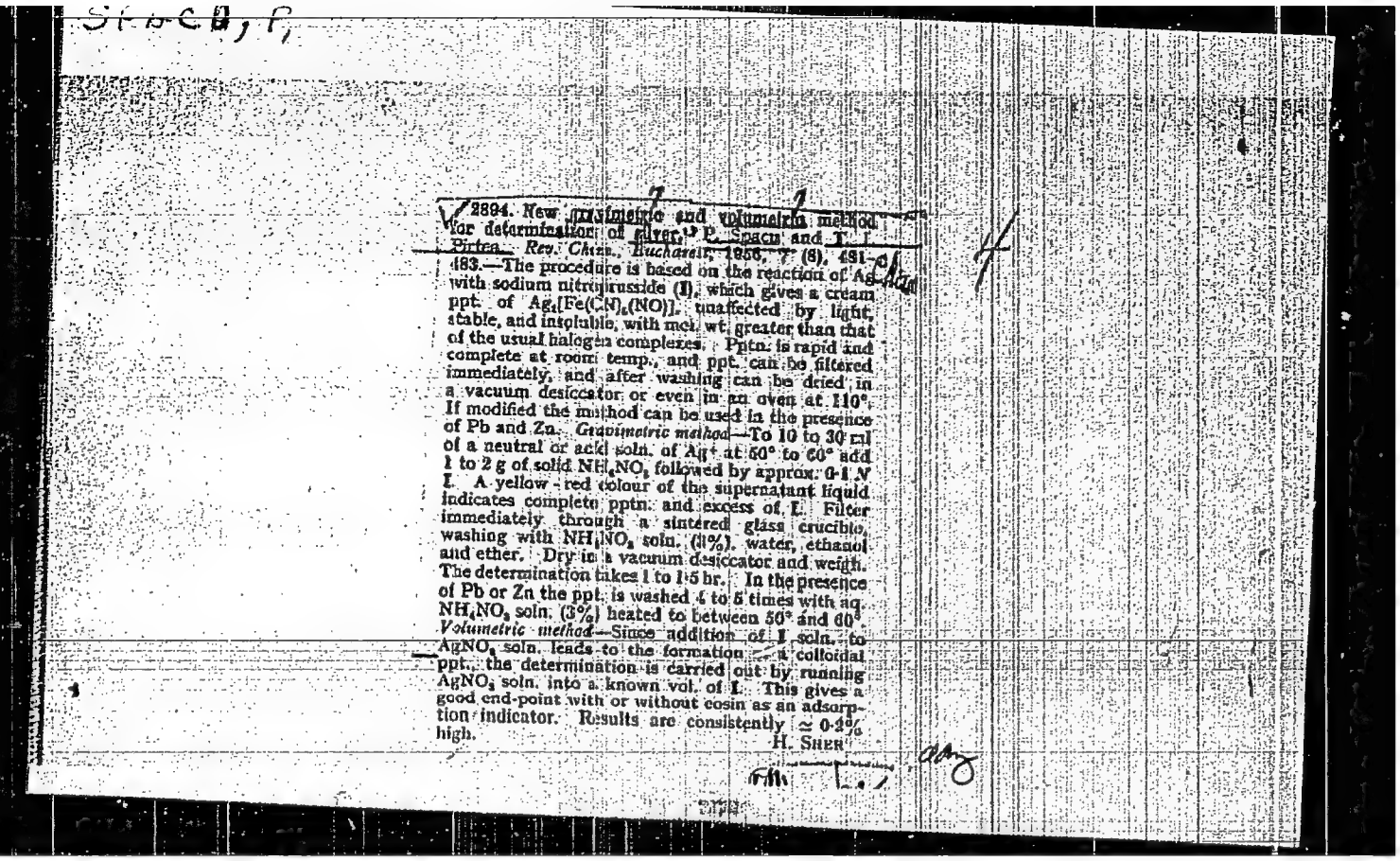
Gravimetric method for silver analysis. P. Spacu and M. Grafiteanu (Fac. Chem., Bucharest, Romania). *Analele univ. "C. I. Parhon" Bucuresti, Ser. stiinț. nat.* No. 11, 123–8 (1956) (in Romanian) (Russian and French summaries).—The detn. is based on the formation of the complex compd $[Ag(C_3N_2H_4)_2](C_6H_3N_3O_7)$ obtained by treating a Ag salt with a satd. 1% soln. of picric acid and a 5% soln. of thiourea. This method is fast, and the detn. of Ag can be performed with accuracies of less than 0.2% even in the presence of several other elements, especially Pb.

Mircea Fotino

4
2 mag
2



The chlorolodates—two new classes of compounds—the dichlorolodo metal amines and the tetrachlorolodo metal amines. P. Spacu and Florica Popea. *Rev. chim., Acad. rép. populaire Roumaine* 1, No. 1, 127–32(1956)(in French).—Complex dichlorolodates were prepd. by the reaction of NH_4ICl_4 and Co amines in aq. or alc. HCl solns. Among those prepd. were *trans*-$[CoCl_2(NH_3)_4]ICl_2$, *trans*-$[CoCl_2\ en_2]ICl_2$, *trans*-$[Co(NH_3)_4(DH)_2]ICl_2$, *cis*-$[Co\ en_2Cl_2]ICl_2$, *cis*-$[Co\ py_2(DH)_2]ICl_2$, and $[Co\ py_4Cl_2]ICl_2$, where DH is dimethylglyoxime. All of these compds. have the same color as does the metal cation, are cryst., and are more stable than the simple salts. When solid NH_4ICl_4 was added to Co amine in aq. HCl soln. $[Co\ Cl_2\ en_2]Cl_2 \cdot 2HCl$ was formed which when mixed in an agate mortar with NH_4ICl_4 in Et_2O gave the mono HCl salt. This was converted to the anhyd. salt by washing with an alc.-Et_2O mixts. The iodates and chlorides of $[Co(NH_3)_6](IO_3)_3$-$[Co(NH_3)_6](ICl_4)4H_2O]^{++}$ and $[Cr(NH_3)_6](IO_3)_3[Cr(NH_3)_6](ICl_4)4H_2O]^{++}$ were formed by the addn. of NH_4ICl_4 to the respective ammine, are yellow and the Co compd. stable to P_2O_5 at 80° in vacuo. If the dichlorolodate is treated with Cl_2, the corresponding (ICl_6^-) compd. can be formed. The substances are less brilliantly colored than are the corresponding ICl_6^- compds. but are unaffected by weak acids, NaOH, and NH_4OH at room temp., are insol. in Et_2O and sol. in abs. alc. $[Co(NH_3)_6(DH)_2]ICl_4 4H_2O$ loses the H_2O after 24 hrs. in alc. Hen-(ICl_4) and the $HICl_4$ deriv. of 2-aminopyridine were prepd. by the reaction of the respective ammines with NH_4ICl_4 and Cl_2 at 0°, and are yellow unstable cryst. A. Leiter



2894. New gravimetric and volumetric method for determination of silver. P. Spacu and T. Birtea. *Rev. Chim., Bucharest*, 1956, **7** (8), 481–483.—The procedure is based on the reaction of Ag^+ with sodium nitroprusside (I), which gives a cream ppt. of $Ag_4[Fe(CN)_5(NO)]$, unaffected by light, stable, and insoluble, with mol. wt. greater than that of the usual halogen complexes. Pptn. is rapid and complete at room temp., and ppt. can be filtered immediately, and after washing can be dried in a vacuum desiccator or even in an oven at 110°. If modified the method can be used in the presence of Pb and Zn. *Gravimetric method*—To 10 to 30 ml of a neutral or acid soln. of Ag^+ at 50° to 60° add 1 to 2 g of solid NH_4NO_3 followed by approx. 0·1 *N* I. A yellow-red colour of the supernatant liquid indicates complete pptn. and excess of I. Filter immediately through a sintered glass crucible, washing with NH_4NO_3 soln. (1%), water, ethanol and ether. Dry in a vacuum desiccator and weigh. The determination takes 1 to 1·5 hr. In the presence of Pb or Zn the ppt. is washed 4 to 5 times with aq. NH_4NO_3 soln. (3%) heated to between 50° and 60°. *Volumetric method*—Since addition of I soln. to $AgNO_3$ soln. leads to the formation of a colloidal ppt., the determination is carried out by running $AgNO_3$ soln. into a known vol. of I. This gives a good end-point with or without eosin as an adsorption indicator. Results are consistently ≃ 0·2% high.

H. Sher

SPACU, P.

RUMANIA/Analytic Chemistry - Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46480

Author : P. Spacu, Gr. Teodoroscu

Inst : Bucharest Polytechnical Institute.

Title : Volumetric Method of Determination of Isonicotinic Acid Hydrazide.

Orig Pub : Bul. Inst. politechn. Bucuresti, 1956, 18, No 1-2, 47-50.

Abstract : The method is based on the oxidation of the hydrazide of isomicotinic acid (I) with an excess of KIO_3 and the iodometric determination of KIO_3, which has not taken part in the reaction. 3 to 10 ml of I solution (0.015 to 0.05 g of I) and 2 to 5 ml of 0.1 M solution of KIO_3 are mixed in a flask, diluted to 100-150 ml with water,

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Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46480

and 0.5 g of KI is added to it. After the latter has dissolved, 15 to 30 ml of 0.2 n. NaOH solution is added, and 5 min. later 5 to 10 ml of 0.5 n. H_2SO_4 is also added and the liquid is titrated with $Na_2S_2O_3$ solution. One mole of KIO_3 oxidizes 1.5 mole of I. The accuracy of the method is ±0.4%.

SPACU, P.

RUMANIA/Analytic Chemistry - Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46481

Author : P. Spacu, Gr. Teodoroscu, D. Gavanescu

Inst : Bucharest Polytechnical Institute.

Title : New Volumetric Method of Determination of Isonicotinic Acid Hydrazide.

Orig Pub : Bul. Inst. politechn. Bucuresti, 1956, 18, No 1-2, 51-54.

Abstract : A new rapid and accurate method of volumetric determination of isonicotinic acid hydrazide (I) is proposed, it is based on hydrazide oxidation with chloramine T. 3 to 10 ml of I solution (0.015 to 0.05 g of I) and 10 to 20 ml of 0.1 chloramine T solution are mixed in a flask and diluted with water to 100 ml, after which 0.1

Card 1/2

30

SPACU, P

RUMANIA/Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref. Zhur.-Khimiya, 1958, No II, 35895.

Author : P. Spacu, A. Ovanesian, D. Gëvănescu.
Inst : Not given.
Title : Volumetric Method of Determination of Cadmium.

Orig Pub: Bul. Inst. politehn., Bucuresti, 1956, 18, No 1-2, 55-58.

Abstract: A method is described, based on precipitation of Cd^{2+} in the form of $CdC_2O_4 \cdot 3H_2O$ in a neutral medium and on a subsequent permanganatometric determination of the excess $C_2O_4^{2-}$. At a big excess of $Na_2C_2O_4$ (> 10%) a complex compound $CdNa_2(C_2O_4)_2$ soluble in water is formed. The presence of important quantities of ammonium and alkali salts in the solution contributes also to the solution of the deposit $CdC_2O_4 \cdot 3H_2O$. 0.1 n $Na_2^{2}C_2O_4$ is added to the analyzed solution containing 0.1-0.2 g Cd diluted by water

Card : 1/2

RUMANIA/Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref. Zhur.-Khimiya, 1958, No II, 35895.

up to 50 or 100 ml, mixed thoroughly, kept for 5-10 min. and filtrated. 25 ml of the obtained filtrate is diluted by water (50-60 ml), acidified by 20% H_2SO_4 (5-6 ml) and the excess of $Na_2C_2O_4$ is titrated back by 0.1 n. solution of $KMnO_4$. The length of determination is ~ 20 min. The determination is hindred by Cl^-.

Card : 2/2

RUMANIA/Chemical Technology. Chemical Products and Their Application. Pharmaceuticals. Vitamins. Antibiotics. H-17

Abs Jour: Ref Zhur-Khim., No 2, 1959, 5755.

Author : Spacu, P.; Roboiu, F.; Brasoveanu, M.
Inst : Bucharest Polytechnical Institute.
Title : Gravimetric Method of Determination of Vitamin B_1.

Orig Pub: Bul. Inst. politehn. Bucuresti, 1956, 18, No 3-4, 169-173.

Abstract: A method of gravimetric determination of vitamin B_1 in its pure solutions is proposed: the vitamin is precipitated at 18° with an excess of the aqueous solution of tetrathiocyanidediamminochromate of ammonium $NH_4[Cr(SCN)_4(NH_3)_2]H_2O$ in the medium of acetic acid (pH = 2.6); 1 hour later the rose-violet crystalline precipitate is separated with a filter crucible, washed with distilled water,

Card : 1/2

SPACU P.

RUMANIA/Chemical Technology. Pharmaceuticals. Vitamins. Antibiotics. H

Abs Jour: Ref Zhur-Khim., No 24, 1958, 82722.

Author : Spacu P., Brasoveanu M., Roboiu F.
Inst :
Title : A New Gravimetric Method for Determining Acridine.

Orig Pub: Bul. Inst. politech. Bucuresti, 1956, 18, No 3-4, 175-179.

Abstract: By the reaction of a solution of acridine (I) with a freshly prepared solution of NH_4- Reinecke salt (II) in acetic acid medium, the yellow crystalline precipitate $[C_R(NH_3)_2(CNS)_4]HC_{13}H_9N$ salt is formed, which dissolves in alcohol and ether, and is sparingly soluble in water. Ten ml of 0.4% solution of I, acidi-

Card : 1/2

SPACU, P.

RUMANIA/Analytic Chemistry - Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 46485

Author : P. Spacu, V. Spiridonescu

Inst : Bucharest Polytechnical Institute.

Title : New Volumetric Method of Methionine Determination.

Orig Pub : Bul. Inst. politechn. Bucuresti, 1956, 18, No 3-4, 181-184.

Abstract : Methionine (I) oxidizes quantitatively to $CH_3CO.(CH_2)_2.CHNH_2.COOH$ sulfoxide interacting with KIO_3 and KI in a hydrochloric acid medium at pH of 1 to 2. 1 mole of KIO_3 corresponds to 3 moles of I. 1 ml of 0.1 M KIO_3 solution, 2 ml of concentrated HCl, 0.5 of KI and I_2, which has not reacted, are added to 5 or 10 ml of a

Card 1/2

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Spacu P.

3571

VOLUMETRIC DOSE DETERMINATION OF STRONTIUM

P. Spacu and F. Popescu (Laboratory of Inorganic and Analytical Chemistry, Polytechnic Inst. of Bucharest). Bul. Inst. Politehnic, Bucuresti 11, Nos. 3-4, 185-7(1958) July-Dec. (In Rumanian)

A new method is offered for the volumetric determination of Sr in the form of iodite. A solution of $Sr(NO_3)_2$ is treated with KIO_3 in the presence of alcohol. The solution is agitated, precipitated, and filtered through a dry quantitative filter. Then the KI and H_2SO_4 are added to the filtrate, and by titration iodine is liberated with a solution of 0.1N $Na_2S_2O_3$. The method is very simple and can be applied with ordinary reagents. (tr-auth)

RUMANIA/Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43014.

Author : Spacu P., Teodorescu Gr.
Inst : Bucharest Polytechnic Institute.
Title : New Method of Quantitative Separationof Iron and Zinc.

Orig Pub: Bul. Inst. politehn. Bucuresti, 1956, 18, No 3-4, 189-191.

Abstract: It was found that on addition of pyridine to a neutral or weakly acidic solution containing Fe^{3+} and Zn^{2+}, Fe^{3+} is completely precipitated as $Fe(OH)_3$, while Zn remains in solution in the form of $Zn(C_5H_5N)_4^{2+}$. Fe^{2+} is first oxidized to Fe^{3+}. On twice-performed precipitation the precipitate of $Fe(OH)_3$ is completely freed from traces of Zn^{2+}. To 150-200 ml of the solu-

Card : 1/2

SPACU, P.

RUMANIA/Analytical Chemistry. Analysis of Inorganic Substances. E-2

Abs Jour: Ref. Zhur-Khimiya, 1958, No II, 35880.

Author : P. Spacu, A. Ovanesian, D.Gâvănescu.
Inst : Not given.
Title : Chloramine T Analytical Application. I. The Determination of Zinc and Magnesium.

Orig Pub: Bul. Inst. politehn. Bucuresti, 1956, 18, No 3-4, 193-197

Abstract: The solution of chloramine T (I) is applied for the volumetric determination of 8-hydroxyquinoline (II) instead of $KBrO_3$ + KBr solution and, hence, for an indirect determination of cations, deposited quantitatively in the form of complexes $(C_9H_6ON)_2M$. 5,7 dichlorhydroxyquinoline is formed in presence of HCl by interaction of I and II (2 moles I - I mole II). In order to determine Zn^{2+}, the solution to be analyzed containing ~0.04 g Zn is diluted

Card : 1/2

Spacu, P.

RUMANIA/Inorganic Chemistry - Complex Compounds. C

Abs Jour: Referat Zhur - Khim, No. 9, 1959, 30759

Author : Spacu, P, Gheorghiu, C., Brezeanu, M, Popescu, S.

Title : Syntheses of Complex Compounds. I. Complex Compounds of Trivalent Cobalt

Orig Pub: Studii si Cercetari Chem, 1957, No 3, 517-528

Abstract: No abstract

Card 1/1

Petru Spacu

27

Determination of bismuth. Petru Spacu and Sofia Calugareanu (Univ. Bucharest, Romania). *Analele univ. C. I. Parkon Bucuresti, Ser. stiint. nat.* No. 13, 75–8(1957) (Russian and French summaries).—To an aq. soln. of Bi^{+3} with an excess of KCl present, add dil. NaOH dropwise until a white ppt. of $Bi(OH)_3$ appears. Dil. HCl is added dropwise just enough to dissolve this ppt. The Bi is now pptd. with an excess of 15% aq. K xanthogenate, which is added under continuous agitation. The yellow crystals are filtered, washed with H_2O, 50% EtOH, and dried at 60–70°. Ions of As, Sb, Sn, Cu, Mn, Co, Fe, Ni, Cr, Re, Te, Ag, Hg, and Cd interfere, while Na, K, NH_4, Ca, Sr, Ba, and Al do not. Max. error is ±0.3%. M. Liquornik

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69

A new gravimetric method for the determination of pyrophosphates. P. Spacu and Cl. Vasilescu (Univ. Bucharest, Romania). *Analele univ., "C. I. Parhon" Bucuresti, Ser. stiint. nat.* No. 13, 79–83 (1957) (French and Russian summaries).—To a cold 5% ammoniacal soln. add a 1% soln. of $[Co(NH_3)_6](NO_3)_3$. The ppt. thus formed is allowed to stand ½ hr. Filter, wash with a 20% EtOH soln. contg. 40 ml. 25% NH_4OH and 40 ml. 1% $[Co(NH_3)_6](NO_3)_3$, to the disappearance of NO_3 ions, and afterwards with EtOH and ether. Dry the ppt. 15 min. *in vacuo*, and weigh as $[Co(NH_3)_6]NaP_2O_7$. 16 references. M. Liquornik

RUMANIA/Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42832.

Author : Spacu Petre, Drezeanu M.
Inst : "C. I. Parhon" University.
Title : Hexachloroplumbates. Communication IIIa. New Class of Complex Compounds: Hexachloroplumbatammines.

Orig Pub: An. Univ. "C.I. Parhon". Ser. stiint. natur., 1957, No 14, 55-75.

Abstract: On addition of $(NH_4)_2[PbCl_6]$ (I) to a solution of $[Co(NH_3)_6]Cl$ in chlorine water, there are formed yellow crystals of probably composition $[PbCl_6][Co(NH_3)_6]Cl$, which change very rapidly into a dark-brown substance $[PbCl_6][Co(NH_3)_6]$-O-$[Co(NH_3)_6][PbCl_6]$ (II). In dilute solutions, due to hydrolysis, there is formed the yellow

Card : 1/4

RUMANIA/Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42832.

yield complex compounds containing Pb(2+). Yellow compounds of the composition $[Co(NH_3)_6][PbCl_6]X \cdot nH_2O$, wherein X -- NO_3, ClO_3, NO_2, 1/2 SO_4, are obtained on addition of I to dilute solutions of luteo-salts of oxygen-containing acids. By the action of concentrated HCl all these yellow compounds are converted to the purple form IV. If solutions of I and $[Co(NH_3)_6]Cl_3$ are mixed and a concentrated solution of KNO_3 is added, without filtering off II, there is obtained the yellow $[Co(NH_3)_6][PbCl_6](NO_3)_2 \cdot 3H_2O$. This confirms the fact that valency of Pb remains equal to 4. Over P_2O_5 the purple dodecamminodiol-chromic salt loses 1 molecule of water, and the color changes to dark-brown, which evidences a conversion of the diol to an oxo-

Card : 3/4

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42832.

analogy in structure of purple compounds of Co and Cr. Communication II see RZhKhim, 1956, 35610.

Card : 4/4

RUMANIA/Analytical Chemistry - Analysis of Organic Substances E-3

Abs Jour : Ref Zhur - Khimiya, No 4, 1958, No 11056

Author : Petre Spacu, M. Gafiteanu
Inst : "C.I. Parhon" University

RUMANIA/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24742

(30 ml 0.1 N solution) and Cd^{2+} (5 ml 0.1 N solution) 0.8-1 g Complexon III are added to the solution being titrated in order to mask these ions. NO_3^-, CH_3COO^-, SO_4^{2-} do not interfere. Determination error does not exceed 2%.

Card 2/2

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The metallic complexes of pyrocatechol. I. Fe(III)-pyrocatechol complexes. Petru Spacu and Sanda Popescu. *Analele Univ. "C.I. Parhon" Bucureşti, Ser. Ştiinţ. Nat.* No. 16, 63-66(1957).—The possible existence of the ion $[Fe(O_2C_6H_4)_3]^{---}$ was investigated as well as the increase of the stability of $(NH_4)_3[Fe(O_2C_6H_4)_3]$ by reaction with different complexes of ammines. The reactions between $(NH_4)_3[Fe(O_2C_6H_4)_3].H_2O$ and the ammines $[Co\ en_3]Cl_3$, $[Cr\ en_3]Cl_3.3^1/_2H_2O$, and $[Co\ en_2\ o\text{-phen}]ClSO_4.2H_2O$ (*o*-phen = *o*-phenanthroline), produced the anion $[Fe(O_2C_6H_4)_3]^{---}$ in the following compounds: $[Co\ en_3][Fe(O_2C_6H_4)_3]$, $[Cr\ en_3][Fe(O_2C_6H_4)_3]$, $[Co\ en_2\ o\text{-phen}][Fe(O_2C_6H_4)_3]$. The existence of the anion $[Fe(O_2C_6H_4)_2(OH_2)_2]^-$ in aq. solns. was proven in the following complexes: $[Co\ en_2\ ClOH_2][Fe(O_2C_6H_4)_2(OH_2)_2]_2.14H_2O$, $[Fe\ o\text{-phen}_3][Fe(O_2C_6H_4)_2(OH_2)_2]_2.5H_2O$, and $[Fe\ dpy_3][Fe(O_2C_6H_4)_2(OH_2)_2]_2$. In these cases the radical pyrocatechol is replaced by 2 mols. of water. If $(NH_4)_3[Fe(O_2C_6H_4)_3].H_2O$ is treated with $[Fe\ o\text{-phen}_3]SO_4$, one pyrocatechol is replaced by *o*-phenanthroline: $[Fe(O_2C_6H_4)_2\ o\text{-phen}]_2[Fe\ o\text{-phen}_3].8H_2O$. In order to study these replacements, the action of *o*-phenanthroline and dipyridyl (dpy) was studied on the salt of Weinland and Binder $(NH_4)_3[Fe(O_2C_6H_4)_3].H_2O$. Even with an excess of org. base (1 mole $[Fe(O_2C_6H_4)_3](NH_4)_3.H_2O$: 1, 2, 3, 5, or 8 moles *o*-phenanthroline or 1, 2, 3, or 5 moles dipyridyl), the same compounds were always formed: $NH_4[Fe(O_2C_6H_4)_2\ o\text{-phen}]$ (I), $NH_4[Fe(O_2C_6H_4)_2\ dpy]$ (II). In the case of a large excess of org. base, the complexes I and II are contaminated by the org. base.

C. Heitner-Wirguin

RUMANI/Chemical Technology Chemical Products and Their Applications. Pharmaceuticals. Vitamins. Antibiotics. H

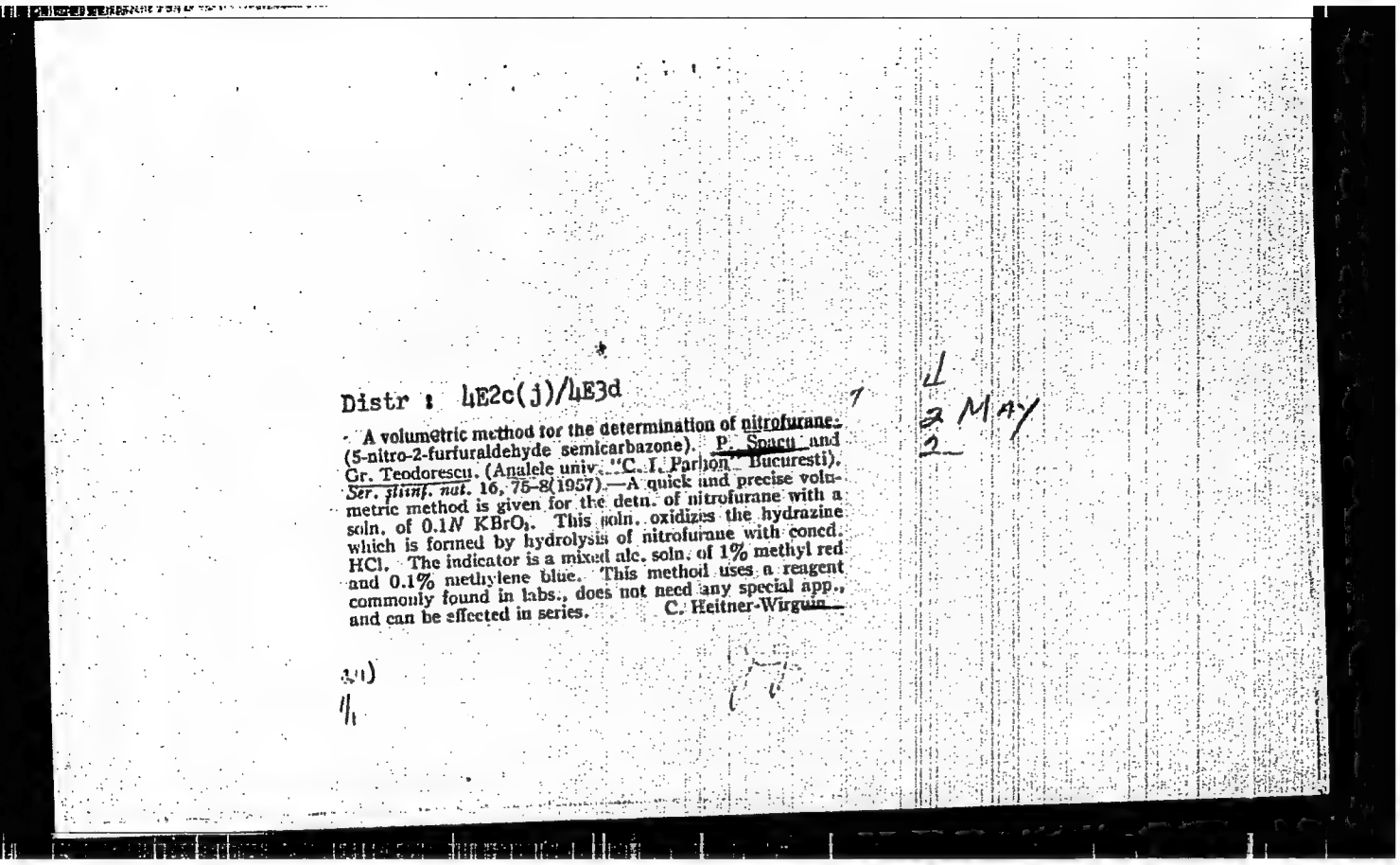
Abs Jour: Ref Zhur-Khim., No 8, 1959, 28574.

Author : Spacu, P., Radulescu E., and Iancu, C.
Inst : C. J. Parhon University
Title : Determination of Quinine and Cinchonine by the Gravimetric Method with the Use of Reinecke Salt.

Orig Pub: An Univ C. J. Parhon, Ser Stiint Natur, No 16, 67-70 (1957) (in Rumanian with French and Russian summaries)

Abstract: Conditions have been established for the determination of quinine and cinchonine in the form of $2[Cr(NH_3)_2(SCN)_4]H$-alkaloid complexes by precipitation from strongly acid Reinecke salt solutions. The bibliography lists 26 titles. -- A. Vavilova.

Card : 1/1



Distr : 4E2c(j)/4E3d

A volumetric method for the determination of nitrofurane. (5-nitro-2-furfuraldehyde semicarbazone). P. Spacu and Gr. Teodorescu. (Analele univ. "C. I. Parhon" Bucuresti), *Ser. stiinț. nat.* 16, 75–8(1957).—A quick and precise volumetric method is given for the detn. of nitrofurane with a soln. of 0.1*N* $KBrO_3$. This soln. oxidizes the hydrazine which is formed by hydrolysis of nitrofurane with concd. HCl. The indicator is a mixed alc. soln. of 1% methyl red and 0.1% methylene blue. This method uses a reagent commonly found in labs., does not need any special app., and can be effected in series. C. Heitner-Wirguin

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PETRU SPACU

Distr: 4E2c

Use of Chloramine T in analytical chemistry. II. Determination of iron, aluminum, vanadium, and titanium. Petru Spacu, Agon Ovanesian, and Dumitru Cavanescu (Inst. Politeh., Bucuresti, Romania). *Bul. inst. politehnic Bucuresti* 19, 183–7 (1957) (Summary in Russian and French). —The metal to be detd. is ppted. with an acetate soln. of 2% 8-quinolinol. The pH of the soln. before pptn. must be as follows: 3–11 for Fe, 4–9 for Al, 3–6 for V, and 5–8 for Ti. The ppt. is washed with hot water, filtered, then dissolved in 5*N* HCl, except for Al where a 1:1 soln. of 5*N* HCl and EtOH is used. To the resultant soln. and excess of 0.1*N* chloramine T is added dropwise and with stirring. To this 0.5 g. of KI is added and the I liberated by the excess of chloramine T is titrated with a 0.1*N* $Na_2S_2O_3$. If the solns. of Al and V have a concn. larger than 5 mg./cc. the results will be high. A. Berlin

SPACU, P.

RUMANIA/Inorganic Chemistry. Complex Compounds C

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, No 7384

Author : G. Spacu, P. Spacu, C. Gheorghiu
Inst : Not Given
Title : On the Study of the Complex Compounds of Thio-Molybdates and Thio-Tungstates.

Orig Pub : Studii si. cercetari chim., 1957, 5, No 1, 169-188

Abstract : Following complex compounds are synthesized: $(MoS_4)X$ and $(WS_4)X$ (where X- is $(Cr(NH_3)_6)NO_3 \cdot I/2H_2O$ and $(Cr(NH_3)_5Cl)$); $(MoS_4)_2\ (Cr_4(OH)_6\ En_6)\ SO_4$; $(MpS_4)_2\ (Cr_4(OH_6)En_6)\ Cl_2$; $(MoS_4)\ (CuEn_2) \cdot I/2H_2O$; $(WS_4)_3\ (Cr(NH_3)_6)_2$; $(WS_4) \cdot (Cr(NH_3)_5Cl)$; $(WS_4)\ (Cr(NH_3)_5Br)$; $(WS_4)_2(Cr_4\ (OH)_6 \cdot En_6)SO_4$; $(MoS_4)X$ and $)WS_4)X$ (where X is $H_2 \cdot 2(C_{13}H_9N)$ $H_2(C_2H_8N_2)$. $H_2 \cdot 2(CH_2)_6N_4$; $H_2 \cdot 2(C_{12}H_8N_2 \cdot H_2O)$, $H_2 \cdot 2(NH_2 \cdot C_5H_4N)$ and $H_2 \cdot (C_4H_{10}N_2)$, $(WS_4)H_2 \cdot 2(C_6H_5N)$ and $(WS_4)H_2 \cdot 2(NC_9H_6OH) \cdot H_2O$.

Card : 1/1

Spacu, P.; Teodorescu, G.

A new volumetric method for the determination of the hydrazide of isonicotinic acid; Remifon.

P. 42 (REVISTA DE CHIMIE) (Bucuresti, Rumania) Vol. 7, No. 1, Jan. 1957

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 5. 1958

RUMANIA/Analytical Chemistry - Analysis of Organic Substances

Abs Jour : Ref Zhur - Khimiya, No 4, 1958, No 11079

Author : P. Spacu, Gr. Teodorescu
Inst : ~~Not given~~ Lab., Inst. Polytechnic, Bucharest
Title : New Volumetric Method of Determination of Isonicotinic Acid Hydrazide

Orig Pub : Rev. chim., 1957, 8, No 1, 42-43

Abstract : The complex compound $(C_5H_4NCONH\text{-}NH_3)\cdot[Cr(SCN)_4\cdot(NH_3)_2]$ (III) is formed at the interaction of isonicotinic acid hydrazide (I) with Reineke's salt (II) in an acid medium. This compound is of lilac color, little soluble in water, better soluble in alcohol and ehter and very well soluble in acetone. III dissociates at heating. The determination of I is carried out in an indirect way by adding $AgNO_3$ solution to III solution in acetone; the precipitated reinekate is separated and the excessive $AgNO_3$ is titrated off with $NH_4\cdot SCN$ solution. From 5 to 10 mlit of I solution (about 0.5%) is taken for analyzing, it is acidified with 3 drops of dilute H_2SO_4 and the volume is brought up to 20 mlit; 10 mlit of freshly pre-

Card : 1/2

RUMANIA/Analytical Chemistry - Analysis of Organic Substances

Abs Jour : Ref Zhur - Khimiya, No 4, 1958, No 11079

pared 2%-ual II solution is added drop by drop and the formed precipitate of III is filtered, washed 3 or 4 times with 0.1%-ual II solution, and twice with 0.5 mlit of water each time. The precipitate is dissolved on the filter is acetone, the received solution is transferred into a calibrated flask of 100 mlit capacity, 10 to 15 mlit of 0.1 n. $AgNO_3$ solution and a few drops of weak HNO_3 are added and the volume is brought up to the mark with water. After mixing the flask content is filtered through a dry filter into a dry flask and 25 to 50 mlit of the filtrate are titrated with 0.1 n. NH_4SCN solution having added 2 mlit of $(NH_4)_2Fe_2(SO_4)_4$ solution as an indicator.

Card : 2/2

SPACU, P.; ALBESCU, I.; GHEORGHIU, C.

On the quantitative determination of Pentasol. p. 565.

Academia Republicii Populare Romine. STUDII SI CERCETARI DE CHIMIE. Bucuresti, Rumania. Vol. 6, no. 4, 1958.

Monthly List of East European Accessions (EEAI) Vol. 8, no. 7, July 1959.

Uncl.

SPACU, P.; ANTONESCU, E.; GHEORGHIU, C.

On the quantitative determination of Largactil. p. 573.

Academia Republicii Populare Romine. STUDII SI CERCETARI DE CHIMIE. Bucuresti, Rumania. Vol. 6, no. 4, 1958.

Monthly List of East European Accessions (EEAI) Vol. 8, no. 2, July 1959.

Uncl.

COUNTRY : Rumania
CATEGORY :

ABS. JOUR. : RZKhim., No. 21 1959, No. 74479

AUTHOR : Spacu, P. and Gherghiu, C.
INST. : Rumanian Academy of Sciences
TITLE : Contributions to the Study of Thio Compounds. Complex Thiovanadates.

ORIG. PUB. : Studii si Cercetari Chim Acad RPR, 6, No 4, 619-633 (1958)

ABSTRACT : It has been established that $(NH_4)_3VS_4$ is completely soluble in liquid NH_3 with the formation of amines at low temperatures. Aminothiovanadates of the type $[Cr(NH_3)_5X]_3(VS_4)_2$ have been prepared, where X = Cl, Br, SCN, NO_3, and $Cr(NH_3)_3$-VS_4. Freshly prepared aqueous solutions of $(NH_4)_3VS_4$ change their color with an accompanying change in pH from 7 to 8.8; the equilibrium

$$(NH_4)_3VS_4 + H_2O \rightleftharpoons H[VS_3H_2O] + (NH_4)_2S$$

is assumed to operate. The existence of $H[VS_3H_2O]$ has been proved.

From authors' summary

CARD: 1/1

Distr: 4E2c

The analytical chemistry of zirconium. A new gravimetric method for the determination of zirconium. P. Spacu and Florica Popea. *Analele Univ. "C. I. Parhon" Bucuresti, Ser. Stiint. nat.* 1958, No. 17, 45–53.—A new gravimetric method for the detn. of Zr in HNO_3 (other acids do not interfere) is given. The reagent is the Na or NH_4 salt of mercaptobenzothiazole which is added until the color of bromothymol appears (pH = 6–7.6). The ppt. can immediately be filtered and washed with water. As the ppt. is discolored by small amts. of mercaptobenzothiazole and $Zr(OH)_4$, it must be transformed into ZrO_2 and then weighed. This method is easy to perform, and differences found are not more than 0.0002 g. Alk., ammonium, Sr, and Mg salts do not interfere with the detn. of Zr. C. Heitner-Wirguin

SPACU, P., and others.

New syntheses in the chemistry of complex compounds of trivalent cobalt obtained by use of hydrogen peroxide as an oxidizing agent. p. 43.

ANALELE SERIA STINTELOR NATURII. Bucuresti, Rumania. Vol. 7, no. 18, 1958.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 9, Sept. 1959. Uncl.

C

RUMANIA/Inorganic Chemistry - Complex Compounds.

Abs Jour : Ref Zhur Khimiya, No 19, 1959, 67503

Author : Spacu, Petru; Gheorghiu, Constanta; Brezeanu, Marieta; Popescu, Sanda

Inst : C.I. Parhon University

Title : New Syntheses of Complex Compounds of Trivalent Cobalt Using Hydrogen Peroxide as the Oxidizing Agent.

Orig Pub : An Univ. "C.I. Parhon". Ser. stint. natur., 1958, No 19, No 43-53.

Abstract : Using H_2O_2 as the oxidizing agent, $[Co(NH_3)_6]X_3$, where X = Cl, I; NO_3; $[CoEn_3]Cl_3 \cdot 3H_2O$; $[CoPn_3]Y_3 \cdot 3H_2O$, where Y = Cl, I; $Co[(NH_3)_4CO_3]$. z where

Card 1/2

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SPACU, P.; PIRTEA, TH.

A method of determining penicillin in finished products. p. 49.

ANALEL SERIA STINTELOR NATURII. Bucuresti, Rumania. Vol. 7, no. 20, 1958.

Monthly List of East European Accessions (EEAI), GL, Vol. 8, no. 9, Sept., 1959

Uncl.

Potentiometric determination of silver in the presence of other elements. P. Spacu and Th. I. Pirtea. *Analele univ. "C. I. Parhon" Bucureşti, Ser. ştiinţ. nat.* No. 20, 55–8(1958).—A new potentiometric method is proposed for the detn. of Ag in the presence of Zn, Pb, Cu, Cd, Co, Ni, Mn, Ti, and Sb. A soln. of 0.1*N* Na nitroprussiate, $Na_2[Fe(CN)_5NO].2H_2O$, was used as a precipitant; and ethylenediaminetetraacetic acid (complexon III) was used for the masking of other elements. To a soln. of 100–50 ml. vol. was added 7–8 g. of $NaNO_3$ for the coagulation of the colloidal Ag nitroprussiate. In this case, the potentiometric breaking point is more evident. Before the titration, the potential of the system was approx. 380 mv., and the potential of the inflection point was at 280 mv. with the standard calomel electrode. This method is useful for quick and accurate analysis of Ag in alloys and minerals.

P. P. Croitoru

3

4E2c

E-3

COUNTRY : Rumania
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. 86296

AUTHOR : Spacu, P.; Iancu, C.
INST. : "C. I. Parhon" University
TITLE : Gravimetric Determination of Brucine and Strychnine.

ORIG. PUB. : An. Univ."C.I.Parhon". Ser. stiint. natur., 1958, No 20, 59-61

ABSTRACT : On interaction of brucine (I) or strychnine (II) with $K_3[Cr(SCN)_6]$ (III) in a strongly acidic medium there are formed pale-violet precipitates insoluble in water, partially soluble in alcohol, and readily soluble in acetone. For determination of I and II, 0.01-0.05 g of material are dissolved in 25-35 ml water, 2-3 ml concentrated HCl are added to the solution, followed by an excess of freshly prepared 5% aqueous solution of III. After 5 minutes the resultant precipitate is filtered off, washed with water and dried at 100-102°. Conversion factor is 0.6990 for I, and 0.7130 for II. The error does not exceed 0.07%.

B. Manole.

CARD:

124

E-3

COUNTRY : Rumania
CATEGORY :

ABS. JOUR. : RZKhim., No. 1959, No. 86297

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : followed by freshly-prepared 5% solution of $K_3[Cr(SCN)_6]$ until complete precipitation is effected (until the solution turns violet). The precipitate is filtered off, washed with water (to remove Cl^-), dissolved in 5-10 ml acetone, 15-20 ml 0.1 N solution of $AgNO_3$ are added to the acetone solution, the mixture is diluted with water, filtered, HNO_3 and $NH_4Fe(SO_4)_2$ are added to aliquot portion of filtrate, and titration with 0.1 N solution of NH_4SCN is carried out. -- B. Manole.

CARD: 2/2

125

RUMANIA / Analytical Chemistry. Inorganic Analysis. E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 81960

Author : Spacu, P.; Radulescu, Elena; Vasilescu, Claudia; Balanel, Elena
Inst : Not given
Title : Separation and Determination of Manganese in Ferromanganese

Orig Pub : An. Univ. "C. I. Parhon", Ser. stiint. natur., 1958, No 20, 69-77

Abstract : Two methods were applied with improvements to the determination of Mn in ferromanganese under factory conditions: complexometric method (Pribil, R.; Horacek; Z. anal. Chem., 132, 140 (1951)) and ion-exchange method (RZ Khim, No 6, 1955, No. 9697). In the 1st method the sample to be analyzed, containing 30-150 mg

Card 1/4

RUMANIA / Analytical Chemistry. Inorganic Analysis. E

RUMANIA / Analytical Chemistry. Inorganic Analysis. E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 81960

method the cation exchange resin Amberlite 1R-120 is used; 20% HCl solution (150 ml) is used for the elution of Mn. The resulting solution is neutralized with a concentrated NH_4OH solution, and Mn is determined by an indirect titration: an excess of 0.1 N solution of 1 [means (I)], 8-10 ml buffer solution (350 ml NH_4OH + 54 g NH_4Cl) are added, and the excess of (I) is back-titrated with 0.1 N. $ZnSO_4$ solution, using Eriochrome Black T as indicator. It was determined that the use of NaOH or KOH (instead of NH_4OH) for the neutralization causes high results in the determination of Mn. This method is two times more accurate than the first one, but is more time-consuming; it is also necessary to separate

Card 3/4

RUMANIA / Analytical Chemistry. Inorganic Analysis. E

Abs Jour : Ref Zhur - Khimiya, No 23, 1959, No. 81960

SiO_2 previously. After the separation of Mn, Fe in the solution is determined by a titration with permanganate (after reducing Fe^{+3} to Fe^{+2} with electrolytic Cd). -- B. Manole

Card 4/4

SPACU, P.; ANTONESCU, E.; GHEORGHIU, C.

On the determination of largactil. Rev chimie 4 no.2:243-252 '59.
(EEAI 9:7)

(Chlorodimethylaminopropylthiazine)
(Complex compounds)

SPACU, P.

Complex compounds of chromium with serin. J. Schelzer and P. Spacu (C. I. Parhon Univ., Bucharest, Romania). *Z. anorg. u. allgem. Chem.* 301, 197–214(1959).—Addn. of excess Me_2CO to boiled aq. solns. of $CrCl_3$ and varying amts. of serin (AH) ppts. viscous masses which, over P_4O_{10} at appropriate temps., give glassy, hygroscopic $[Cr(AH)_2(H_2O)Cl_2].H_2O$, $[Cr(AH)_2Cl_2].2H_2O$, $[Cr(AH)_2Cl_2]Cl.3H_2O$, $[Cr(AH)_3Cl]Cl_2.3H_2O$, and $[Cr(AH)_4]Cl_3.3H_2O$. The compds. form viscous, acidic aq. solns. from which $Cr(OH)_3$ is not pptd. by NH_3. Cond. data are consistent with the above formulations; the ligand is monodentate, probably through the amine N. Addn. of 1 mol. NaOH to these complexes gives mononuclear complexes with bidentate ligands, i.e., $[Cr(AH)_2Cl_2]$ gives $[CrA(AH)_2Cl_2]$ and $[CrA_2(AH)Cl]$ for 1 and 2 mols. NaOH, resp. Addn. of 3 mols. NaOH gives $Cr(OH)_3$ for the bis complex and the binuclear complex, $[Cr_2A_4(OH)_2].0.5H_2O$ (I) for the others; yields of the latter increase with increasing no. of AH mols. in the initial complex but decrease if NaOH is added in excess of 3 mols. An inner complex, CrA_3, is not found. A mechanism for the condensation is suggested. The chelate rings of I are successively opened with appropriate amts. of concd. HCl to form $[CrA_2(H_2O)Cl]$, $[CrA(AH)(H_2O)Cl_2]$, and $[Cr(AH)_2(H_2O)Cl_2]$. Treatment of these compds. (or their aq. solns. obtained from I and HCl) with appropriate amts. of AH gives $[CrA(AH)Cl_2].H_2O$, $[Cr(AH)_2Cl_2].2H_2O$, $[CrA_2(AH)_2]Cl$, $[CrA(AH)_2Cl]Cl.H_2O$, and $[Cr(AH)_4Cl_2]Cl$. The tris and tetrakis complexes resemble the mono complexes. Cond. and pH measurements show that in aq. soln. the Cr–AH complexes undergo both acid dissocn. and aquation with replacement of Cl^- or, more slowly, AH in the coördination sphere. Cond. and pH changes are used to evaluate the relative extent of these reactions in the different solns. Richard H. Jaquith

SPACU, P.; ANTONESCU, E.

A study on the determination of Phenergan. Rev chimie 5 no.2:243-250 '60. (EEAI 10:4)

1. Centre of Chemical Researches of the Academy of the R.P.R., Bucharest.
(Dimethylaminoisopropylphenothiazine)

SPACU, P.; ANTONESCU, Elena

Studies on the determination of synopen. Studii cerc chim 8 no.1: 73-83 '60. (EEAI 9:8)

1. Centrul de cercetari chimice al Academiei R.P.R., Bucuresti. 2. Comitetul de redactie, Studii si cercetari de chimie (for Spacu).

(Synopen)

SPACU, P.; ALBESCU, I.

Studies on the determination of nickel. Studii cerc chim 8 no.1: 85-90 '60. (EEAI 9:8)

1. Centrul de cercetari chimice al Academiei R.P.R., Bucuresti.
(Nickel) (Aluminum) (Zinc) (Iron)
(Magnesium) (Paludrine) (Complex compounds)

SPACU, P.; ALBESCU, I.

Studies on the determination of paludrine. Studii cerc chim 8 no.1: 91-96 '60. (EEAI 9:8)

1. Centrul de cercetari chimice al Academiei R.P.R., Bucuresti.
(Complex compounds) (Paludrine)

SPACU, P.; ANTONESCU, Elena

Method for the microgravimetric determination of flaxedil. Studii cerc chim 8 no.1:179-180 '60. (EKAI 9:8)

1. Centrul de cercetari chimice al Academiei R.P.R., Bucuresti. (Phenenyltrisozyethylenetristriethylammonium iodide)

SPACU, P., prof.; SCHERZER, I.

Some aspects of the complex compounds with amino acids. Annalele chimie 15 no.2:107-144 Ap-Je '60. (EEAI 9:11)

1. Comitetul de redactie, Analele Romino-Sovietice, Chimie (for Spacu)

(Complex compounds)
(Amino acids)
(Platinum)
(Chromium)

SPAKU, P. [Spacu, P.]; GEORGIU, K. [Gheorghiu, C.]; ZUBOV, L.

Chemistry of osmium. Rev chimie 6 no.2:323-341 '61.

1. Kafedra neorganicheskoy khimii, Universitet imeni K. I. Parkhona [C.I.Parhon], Bukharest

SPACU, Petru; POPEA, Florica

Spectrophotometric determination of uranium. Studii cerc chim 9 no.1:139-147 '61. (EEAI 10:9)

1. Centrul de cercetari chimice al Academiei R.P.R., Bucuresti.
2. Comitetul de redactie, STUDII SI CERCETARI DE CHIMIE(for Spacu).

(Spectrophotometry) (Uranium)

SPACU, Petru; BREZEANU, M.; KRIZA, A.

New syntheses in the chemistry of complex compounds. II. Complex compounds of cobalt(III) with dioxime. Studii cerc chim 9 no.1:149-158 '61. (EEAI 10:9)

1. Laboratorul de chimie anorganica al Universitatii "C. I. Parhon", Bucuresti. 2. Comitetul de redactie, STUDII SI CERCETARI DE CHIMIE (for Spacu).

(Complex compounds) (Cobalt) (Oximes)

SPACU, Petre[Spacu, Petru]; GHEORGHIU, Constanta; ALBESCU, Ileana

New syntheses in the chemistry of complex compounds. III and IV. Complex compounds of cobalt(III) with paludrine. Studii cerc chim 9 no.1:159-178 '61. (KEAI 10:9)

1. Laboratorul de chimie anorganica, Centrul de cercetari chimice al Academiei R.P.R., Bucuresti. 2.Comitetul de redactie, STUDII SI CERCETARI DE CHIMIE(for Spacu).

(Complex compounds) (Cobalt) (Paludrine)

SPACU, P.; ALBESCU, I.

New syntheses in the chemistry of complex compounds. V.Complex compounds of nickel with paludrine. Studii cerc chim 9 no.1:179-186 '61. (EEAI 10:9)

1. Laboratorul de chimie anorganica, Centrul de cercetari chimice al Academiei R.P.R., Bucuresti. 2.Comitetul de redactie, STUDII SI CERCETARI DE CHIMIE(for Spacu).

(Complex compounds) (Nickel) (Pauldrine)

SPACU, P.; BREZEANU, M.

Study of lead complex thiosulfates. Studii cerc chim 9 no.1:187-196 '61. (EEAI 10:9)

1. Laboratorul de chimie anorganica al Universitatii "C. I. Parhon", Bucuresti. 2.Comitetul de redacte, STUDII SI CERCETARI DE CHIMIE(for Spacu).

(Lead) (Thiosulfates)

SPACU, Petru; POPESCU, Sanda

Study of the complex metallopyrocatechins. Note II. Complex pyrocatechins of Cr(III), Mn(III), and Cu(II). Studii cerc chim 9 no.2: 367-395 '61.

1. Laboratorul de chimie anorganica, Facultatea de chimoe, Bucuresti. 2. Membru al Comitetului de redactie, "Studii si cercetari de chimie" (for Spacu).

(Complex compounds) (Pyrocatechol) (Chromium)
(Manganese) (Copper)

SPACU, P.; GHEORGHIU, C.; ZUBOV, L.

Chemistry of osmium. Studii cerc chim 9 no.3:493-511 '61.

1. Catedra de chimie anorganica, Universitatea "C. I. Parhon", Bucuresti.
2. Membru al Comitetului de redactie "Studii si cercetari de chimie" (for Spacu).

SPACU, P.; BREZEANU, M.

Conductometric study of the complex lead thiosulfates. Studii cerc chim 9 no.4:615-619 '61.

1. Universitatea "C.I.Parhon", Facultatea de chimie, Laboratorul de chimie anorganica, Bucuresti. 2. Membru al Comitetului de redactie, "Studii si cercetari de chimie" (for Spacu).